Auditor General

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to the Legislative Assembly of British Columbia

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Province of British Columbia

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The Honourable Melville B. Couvelier
Minister of Finance and Corporate Relations
Province of British Columbia

Sir:

I have the honour to transmit herewith my Annual Report to the Legislative Assembly, to be laid before the Assembly in accordance with the provisions of section 10 of the Auditor General Act.

George L. Morfitt, FCA
Auditor General

Victoria, British Columbia
May 1991

Annual Report of the Auditor General

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Auditor General's Overview

Auditor General's Overview

The Office of the Auditor General of British Columbia was established in 1977 to provide the Legislative Assembly with independent opinions and evaluations on the financial and administrative management of public resources by the provincial government.

Through the work of my Office, I endeavor to provide assurance to the members of the Legislative Assembly and to the general public that the financial condition of the government is fairly presented in its annual financial statements. At the same time, I seek to promote economy and efficiency in the government's operations, and to further the process of accountability of government to the Legislature.

These objectives are pursued through the implementation of a multi-faceted program which includes:

- auditing the annual financial statements of the provincial government and of related government organizations;
- value-for-money auditing;
- compliance-with-authorities auditing; and
- reviewing internal controls in financial systems.

The observations and recommendations included in this 1991 Annual Report to the Legislative Assembly are intended to assist the members of the Assembly in the carrying out of their public responsibilities. Part I, "Financial Audits", provides comment on the audited financial statements of the government for the fiscal year ended March 31, 1990, and of Crown corporations and other public bodies whose fiscal year-ends occurred on that date or during the fiscal year then ended. Parts II and III, on the other hand, summarize the results of the various value-for-money audits, compliance audits and internal control system reviews carried out by my Office during the 12 month period from April 1990 through March 1991.

Over the years, as the result of audit work undertaken, my Office has provided government officials with a great many recommendations for the improvement of the administration of government programs. I am pleased to say that the vast majority of these recommendations have been accepted

and implemented. However, there is much more that could, and should, be done.

More to be Done

The extent to which value-for-money auditing of government programs is carried out by my Office remains far less complete than I consider is desirable to serve the legitimate interests of the members of the Legislative Assembly. Value-for-money audits are designed to assess whether the programs implemented to achieve government policies are being administered economically and efficiently. They are also concerned with whether members of the Legislative Assembly and the public are provided with appropriate accountability information about government programs. Over the past decade, these audits have grown in interest and importance. Current levels of government expenditure have focused attention on the need for prudent government management and, consequently, government accountability for performance is now generally held to include accountability for economy in obtaining resources, and for efficiency in using them.

In recognition of the growing interest in prudent management of government resources, we have endeavored to expand our program of value-for-money auditing, which was first instituted in 1979. In order to free up resources for this purpose, we have effected efficiency improvements in our financial audit programs, partly through the use of enhanced computer technology. Our efforts have been successful in achieving useful productivity gains.

However, over the ten years to 1991, the total public dollars subject to annual audit by my Office have risen from $40 billion to $150 billion. This has placed additional demands on my Office which have largely offset the productivity gains achieved. As well, over that ten year period, the authorized staff complement of my Office has been reduced from 91 to 87. As a consequence of these factors, although there has been an increasing demand for me to expand my conduct of value-for-money audits of government operations, no value-for-money audits have yet been undertaken by my Office in Crown corporations and agencies. Also, we have not been able to examine the operational economy and efficiency of government ministries with the extent of audit coverage I believe is warranted.

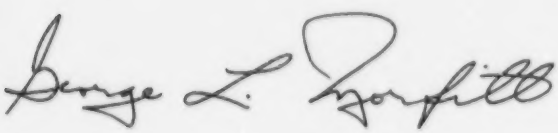
A similar situation exists regarding internal control system reviews. Fewer than 5 of the more than 500 financial control systems operated by government are subject to in-depth examination by my staff in any year.

Thus it is that, in my view, there exists at the present time an insufficient program of comprehensive auditing of government and its related entities by my Office. As well, I do not believe it is realistic to expect further substantive improvements in productivity from current audit resources deployed in the traditional way. In recognition of this, and with the knowledge that there are but finite resources available to be devoted to audit purposes, I am currently conducting an extensive review of the overall planning,

implementation and reporting of the audit programs for which I have legislated responsibility. I expect the results of this review to provide a framework which will assist my Office in establishing, on behalf of the Legislative Assembly, a thoroughly comprehensive program of auditing of the operations of the government of the Province.

I thank the officers and staff of the many ministries and public bodies audited by my Office for their helpful assistance and cooperation. I am pleased to report that we were provided with all of the information and explanations we required in the conduct of our audit program.

I also wish to express my appreciation to the staff of my Office for the professional manner in which they have carried out their audit responsibilities, and for their unfailing dedication to the principles of objectivity, integrity and service to the public in the conduct of their work.



George L. Morfitt, F.C.A.
Auditor General

Victoria, British Columbia
March 28, 1991

Part I: Financial Audits

Part I: Financial Audits

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Financial Audits

This part of the Auditor General's Annual Report contains comments and observations about the financial statements of the government for the fiscal year ended March 31, 1990. It also refers to audits of the financial statements of various Crown corporations and other public bodies, in particular those for which the Auditor General is the appointed auditor.

The Auditor General's Mandate

The Auditor General is required, under the provisions of the *Auditor General Act*, to examine the accounts and records of the government and to report annually to the Legislative Assembly on the government's financial statements. In these reports, the Auditor General must state whether he has received all the information and explanations he has required and whether, in his opinion, the statements present fairly the financial position, results of operations, and changes in financial position of the government in accordance with its stated accounting policies, consistently applied. If he is unable to express his opinion without reservation, he is required to state the reasons why.

The Auditor General is also eligible to be appointed auditor of a Crown corporation, Crown agency, or public body. While the Act does not specify what is required of the Auditor General in the conduct of such audits, the mandate is assumed to be similar to that for the audit of the government's accounts.

Additionally, in cases where the Auditor General is not the auditor of a particular public body, he is nevertheless authorized to make enquiries and to conduct such examinations of the records and operations of the public body as he considers necessary for the performance of his duties under the Act.

The Public Accounts

In keeping with the *Financial Administration Act*, the government is required to table annually in the Legislative Assembly a document titled the Public Accounts. This document contains the annual financial statements of the government, the Auditor General's reports on those financial statements, and other information the government is required or chooses to include in the publication. The form and content of the Public Accounts, as well as the accounting policies used in the preparation of the financial statements, are determined by the Treasury Board.

The Public Accounts for the 1989/90 fiscal year are published in two volumes:

- Volume I contains the audited financial statements of the government, which are described in more detail below. It also contains a number of unaudited supplementary schedules to the financial statements, as well as detailed schedules of payments made by the government during the fiscal year.

- Volume II presents the financial statements of all government organizations and enterprises that are included in the government's Consolidated Financial Statements. It also contains the financial statements of all trust funds administered by the government, as well as summaries of financial statements of corporations and agencies to which the *Financial Information Act* applies.

The government also publishes a Public Accounts Digest which summarizes and interprets certain of the information contained in the government's financial statements.

The Government's Financial Statements

The government's financial statements are an important link in an essential chain of public accountability. They are the principal means by which the government reports to the Legislative Assembly, and to all British Columbians, on its stewardship of public funds.

The government produces three sets of financial statements, each intended to portray a different level of activity under its authority.

The most comprehensive of these are the government's Consolidated Financial Statements. These reflect the financial activities of central government, as well as those of other government organizations that are accountable for the administration of their own financial affairs and resources either to a minister of the government or directly to the legislature, and that are owned or controlled by the government. A copy of these financial statements, together with the Auditor General's Report containing his opinion thereon, appears in Appendix I of this Annual Report. The government has placed these statements third in the ordering of statements in Volume I of the Public Accounts.

Next in order of completeness are the financial statements of the Consolidated Revenue Fund, referred to as the Combined Financial Statements, which report on the status and activities of the General Fund and the Special Funds—the Budget Stabilization Fund and the Privatization Benefits Fund. These statements are ordered in second place in Volume I.

Lastly, the government publishes financial statements of its General Fund, which it describes as containing "the operating activities of the Government including special accounts." These statements are first in order in the Public Accounts, and it is to them which the government generally refers when describing its operating results for a fiscal period.

Results of the Audits

As a result of examinations carried out, the Auditor General has provided audit opinions on the government's financial statements for the fiscal year ended March 31, 1990, and on those of 32 Crown corporations and other public bodies whose fiscal year-ends occurred on that date or during that fiscal year. Further comments on the significance of the auditor's opinion, and the

process employed in reaching that opinion, appear in Appendix C of this report.

The Auditor General's reports containing his opinions on the three sets of government financial statements appear with the respective statements in Volume I of the Public Accounts. While these opinions are provided without reservations, the Auditor General's reports on the General Fund Financial Statements and the Combined Financial Statements contain explanatory paragraphs informing the reader that these statements reflect only part of the significant financial activities of the government. The paragraphs go on to point out that the Consolidated Financial Statements, appearing in Section C of the Public Accounts, are the summary financial statements of the government and, accordingly, provide an accounting of substantially the full nature and extent of the financial affairs and resources for which the government is responsible.

Reports containing the Auditor General's opinions on public body financial statements are similarly appended to the respective statements of each organization. The financial statements and auditor's reports of those public bodies whose financial information is incorporated in the government's Consolidated Financial Statements appear in Volume II of the Public Accounts.

In conducting our financial statement audits, we find numerous items which call for study and corrective action by the ministries, central agencies, and public bodies concerned. We deal with these matters by directly contacting officials of these organizations. Some issues, however, are considered to warrant the attention of the Legislative Assembly and, accordingly, are commented on in the Auditor General's Annual Report. Those arising as a result of our audit of the government's financial statements appear immediately following this section of the report. Those relating to our audit of public bodies are contained in a subsequent report section titled, "Comments Arising from the Audit of Public Bodies, Including Statutory Pension Plans."

Comments Arising from the Audit of Government Financial Statements

Defining the Government Reporting Entity

In our 1990 Annual Report (pages 15 and 16), we reviewed the issues related to how the government reporting entity is determined in the preparation of the Consolidated Financial Statements. Our main recommendation was that the composition of the consolidated financial reporting entity be redeveloped to correspond as closely as possible to the standards set out in Public Sector Accounting Statement 4 issued by the Canadian Institute of Chartered Accountants (CICA). This Statement defines the scope of the reporting entity in terms of the organizations whose financial affairs and resources should be accounted for in a government's summary financial statements.

We are pleased to report that the government has now adopted the criteria recommended by the CICA in determining which organizations should be included in the government's financial reporting entity. By so doing, British Columbia has become one of the first jurisdictions in the country, along with the Government of Canada, to formally adopt the form of reporting entity considered to be the best way of providing an understandable overview of the total financial affairs and resources for which the government is responsible.

However, the government does not appear to have been applying the CICA's reporting entity criteria consistently in preparing its Consolidated Financial Statements for the 1989/90 fiscal year. The criteria call for including in the statements those organizations that are accountable for the administration of their financial affairs and resources either to a minister of the government or directly to the legislature, and that are owned or controlled by the government. Government control is often evidenced by the appointment of a majority of the members of an organization's governing board. The organizations that have been included in the statements, and the technical basis of their inclusion, meet the CICA criteria. These organizations include the government's Consolidated Revenue Fund and 33 other organizations, ranging in size from large Crown corporations, such as British Columbia Hydro and Power Authority, to smaller societies like the British Columbia Year of Music Society.

However, we have a degree of concern about the exclusion of certain organizations from the government reporting entity. In our opinion, the following organizations also meet both the professional criteria of the CICA and the accounting policy criteria of the Treasury Board, and so should be included in the government's financial reporting entity, and thus in its Consolidated Financial Statements:

- post-secondary educational organizations, including:
  - the province's public universities
  - colleges and provincial institutes (including the British Columbia Institute of Technology)
  - the Open Learning Agency
- Workers' Compensation Board
- societies controlled by the government, including:
  - B.C. Health Care Risk Management Society
  - B.C. Summer and Winter Games Society
- British Columbia Housing and Employment Development Financing Authority
- Credit Union Deposit Insurance Corporation of British Columbia

All of the above-noted organizations meet the reporting entity criteria. Accordingly, it is appropriate that they be included in the government's financial reporting entity.

The government has stated that the post-secondary educational organizations are excluded from consolidation because they are dissimilar to other government organizations in terms of their objectives, operations, and financial reporting practices. At the same time, financial officials confirm that these organizations meet the criteria for inclusion. According to the CICA's Public Sector Accounting Statement 4, "Regardless of the form of an organization or the nature of its activities, if the government owns or controls an organization, the government is accountable for that organization's financial affairs and the use of its resources."

In the case of the Workers' Compensation Board (WCB), its operations are similar in many respects to those of the Insurance Corporation of British Columbia (ICBC). Nevertheless, ICBC is included as a government enterprise in the Consolidated Financial Statements, but the WCB, established and controlled by the government, is not. The CICA's statement of public sector accounting standards specifically refers to both "public automobile insurance and workers' compensation" organizations as examples of government enterprises. Alberta's consolidated financial statements have included its Workers' Compensation Board for many years.

In British Columbia, officials of the Ministry of Finance and Corporate Relations have agreed that the WCB meets the CICA's criteria. However, they also state that, since the Board's role is to act as a trustee for funds it administers on behalf of its contributors, the Board's financial information is more properly presented as a trust fund under government administration, and not as part of the government's financial reporting entity. On the other hand, we believe that, rather than merely being a trustee of contributors' premiums, the WCB is in the business of administering a comprehensive workers' compensation program, and

accordingly should be included in the reporting entity as a government enterprise.

Late in the process of preparing the financial statements for the 1989/90 fiscal year, the government added two societies to its financial reporting entity: the British Columbia Year of Music Society and the Downtown Revitalization Program Society of British Columbia. There are at least two other societies that meet the government's reporting entity criteria and should, therefore, have been included in the government's Consolidated Financial Statements: the B.C. Health Care Risk Management Society and the B.C. Summer and Winter Games Society. There may be other societies which, too, would meet the government ownership or control criteria. We therefore recommend that a more comprehensive review be carried out by government officials to ascertain that all government societies are identified and properly included in the financial reporting entity.

British Columbia Housing and Employment Development Financing Authority had $1.5 million of assets and liabilities as at March 31, 1990. It is controlled by the government and accountable to a minister, and so it too should be included in the government reporting entity. The Authority is not permitted to issue any further debt, and is currently administering its investments pending dissolution. However, we do not believe that this operating status should be an impediment to the organization's inclusion in the reporting entity. Other government organizations that have been similarly winding up for some years are being included (e.g., Housing Corporation of British Columbia and Pacific Coach Lines Limited).

The Credit Union Deposit Insurance Corporation of British Columbia also appears to meet the criteria for inclusion in the government's reporting entity. Its directors, who are its only members, are all members of the Financial Institutions Commission, and as such are all appointed by the government. It may be considered, however, that the corporation operates as a trustee on behalf of the province's credit unions and their depositors. In that case, the funds of the corporation, rather than being accounted for in the government reporting entity, should be included in the pertinent financial statement note which deals with trust funds under the administration of the government.

In addition to these organizations that we believe should be added to the government's financial reporting entity, there is another large group of organizations that requires further consideration: the province's public hospitals.

Public hospitals in British Columbia appear to be fully accountable to the government for the management of their financial affairs and resources. This is shown by the extensive financial accountability requirements imposed on hospitals by the Minister and the Ministry of Health, as set out in the *Hospital Act*, the *Hospital Insurance Act*, and the related regulations and ministry policy directives. Therefore, in keeping with CICA public sector accounting standards and the government's own reporting entity

criteria, we believe the exclusion of hospitals from the reporting entity should necessarily be based on an absence of both ownership and control by the government.

Information obtained from the Ministry of Health indicates that the government may control as many as 9 of the approximately 130 public hospitals in the province by virtue of having appointed all, or a majority, of their board members. While some of these appointments may be temporary, according to ministry officials, others are considered to be long term. Ownership of the province's hospitals is also very fundamental to this issue.

We believe the government should analyze the questions of accountability, ownership and control of the province's public hospitals before deciding whether to include or not this large group of provincial organizations in the government's financial reporting entity.

We are still discussing this issue with government officials for the purpose of reaching agreement, based on accepted criteria, as to the organizations which together should comprise the government's reporting entity to be reflected in its summary financial statements.

Conformance with General Standards of Financial Statement Presentation for Governments

Public Sector Accounting Statement 3 was issued by the CICA in November 1986. This Statement includes 35 recommendations on general reporting principles and standards for the disclosure of information in summary financial statements prepared by governments.

In our Annual Reports for 1988, 1989 and 1990, we provided our assessment of the extent to which the government had complied with the recommendations in this accounting statement.

From the government's Consolidated Financial Statements for the 1989/90 fiscal year, we consider that 23 of the recommendations are currently being complied with, another 10 are being partially followed, and 2 are not yet being complied with. These results are generally in line with the current status of financial reporting practices elsewhere in the country.

The public sector accounting recommendations not being complied with, and those being partially followed, are referred to below.

Public sector accounting recommendations not being complied with:

- *Financial statements should be issued on a timely basis.*

The government's financial statements for the 1989/90 fiscal year were completed by the end of September 1990. The Auditor General's reports on these were issued on October 5, 1990. However, the financial statements were not tabled in the Legislative Assembly, and hence released to the public, until March 13, 1991.

- *Financial statements should disclose information to describe a government's acquired physical assets on hand and available for use by the government at the end of the accounting period.*

  Further guidance from the CICA and accounting initiatives in other jurisdictions are being awaited by the government.

Public sector accounting recommendations being partially followed:

- *The statement of financial position should report a government's liabilities at the end of the accounting period segregated by main classifications, such as: accounts payable and accrued liabilities; employee pension obligations; borrowings; and loans and advances from other governments.*

  Unfunded pension liabilities have only been referred to in a financial statement note on contingencies and commitments, and amounts owing to the Government of Canada are included in accounts payable.

- *Financial statements should disclose adequate information about the nature and terms of a government's liabilities.*

  Information on employee pension obligations, and information to describe the nature and terms of the government's liabilities to other governments, are not disclosed.

- *The statement of financial position should report a government's financial assets at the end of the accounting period segregated by main classifications, such as: cash and temporary investments; revenues receivable; inventories for resale; loans and advances to other governments; other loans and advances; and investments.*

  Amounts owing from local governments, other provinces, and the Government of Canada are included in either accounts receivable or loans, advances and other investments.

- *Financial statements should disclose adequate information about the nature and terms of a government's financial assets together with any valuation allowances.*

  Repayment dates and terms for loans and advances are not disclosed.

- *Valuation allowances should be used to reflect financial assets at their net recoverable or other appropriate value.*

  Valuation allowances have not been provided with respect to amounts recoverable only through future appropriations.

- *Financial statements should disclose information to describe a government's material financial commitments at the end of the accounting period.*

  Material financial commitments are not well defined and, for those circumstances where physical asset acquisitions involve large undertakings, the estimated total multi-year project costs are not provided.

- *The statement of revenues and expenditures should report a government's revenues of the accounting period segregated by significant types of revenues from taxes, non-tax sources and transfers from other governments.*

  Sources of the significant revenue types are not shown.

- *The statement of changes in financial position should classify cash flows by operating, investing and financing activities.*

  Investments made and realized are not shown, nor are the amounts of debt issued and repaid.

- *Financial statements should present a comparison of the actual results with those originally forecast by the fiscal plan.*

  A partial comparison of net budget and actual results is included in a note.

- *Planned results should be presented on a basis consistent with that used for actual results.*

  Planned results are principally available for only the General Fund.

Our Office supports the CICA's general standards of financial statement presentation for governments. We therefore encourage the government to adopt and implement all of the above-noted public sector accounting recommendations in its Consolidated Financial Statements.

The government's General Fund Financial Statements and Combined Financial Statements could also benefit from conforming with the standards established in Public Sector Accounting Statement 3. Of the 35 recommendations contained in the statement, the General Fund and Combined statements conform with many of those applied by the government to the Consolidated Financial Statements. However, some recommendations, such as disclosure of the gross amounts of revenues and expenditures, are being only partially followed in the General Fund and Combined Financial Statements. Other recommendations, such as the comparison of actual results with those originally forecast by a fiscal plan, are being followed or partially followed in two of the government's sets of financial statements, but not in the other set.

We encourage the government to adopt fully the general standards of financial statement presentation for governments in all of its formal sets of financial statements.

Changes in Accounting Policy

The government made four significant accounting policy changes in the 1989/90 fiscal year. The nature of these changes and their effects are described on the last page of the Introduction to the Public Accounts for that year. Our additional comments on these accounting policy changes are below.

Fiscal Agency Loan Program

The effect of this accounting policy change has been to move cash and temporary investments held for relending ($55 million as at March 31, 1990) from the balance sheet asset category of "Cash and temporary investments" to the asset category of "Fiscal Agency Loan Program." Because cash restricted for specific purposes should be segregated from cash available for current operating purposes, we found this change acceptable for the government's financial statements.

However, restricted cash could have been segregated without requiring any change in the government's stated accounting policies. Furthermore, the restricted cash could have been shown, or referred to, in a segregated manner more closely and properly associated with the government's other cash and temporary investments in the financial statements by use of a separate line or footnote in the "Cash and Temporary Investments" financial statement note. This would have avoided the presentation in which the dissimilar assets, "cash and temporary investments" and "loans made to government bodies," are included together in one balance sheet category and financial statement note.

Valuation Allowances

This accounting policy change had the effect of providing for separate financial statement disclosure of annual changes in valuation allowances. These allowances are deductions made from the book value of assets, such as receivables, investments, and loans to reduce them to their estimated realizable value. Changes to allowance amounts had formerly been charged (or credited, if the allowance had been reduced) to various revenue or expenditure categories.

The CICA's Public Sector Accounting Statement 3 calls for changes in valuation allowances to be reported as specific items in a government's statement of revenues and expenditures. Until 1990, this recommended form of reporting was not being followed in British Columbia (as reported in the Auditor General's 1990 Annual Report on page 21). We were therefore in general agreement with the new, separate reporting of valuation allowances in the government's Statement of Revenue and Expenditure. However, we did have some concerns about the accounting treatment adopted.

For one, we were concerned that the new accounting policy and the government's Statement of Revenue and Expenditure for the 1989/90 fiscal year both treated valuation allowance changes as "non-

operating" transactions. We believed the additional financial burden associated with not collecting amounts owing to the government, such as revenue receivables, loans, and advances, to be a legitimate operating cost of the government. Upon review, the Office of the Comptroller General agreed with this opinion and recommended to Treasury Board that valuation allowance changes be reported as operating transactions. Treasury Board recently approved of this revised treatment and we look forward to its implementation in the government's accounts and financial statements for the 1990/91 fiscal year.

Another, continuing, concern we have is that the government's Consolidated Financial Statements do not include an explanatory note to disclose the relationship of the several types of allowances to the main classifications of financial assets. Both the General Fund Financial Statements and Combined Financial Statements do have such a note, and this detailed disclosure is called for in Public Sector Accounting Statement 3.

Consolidated Reporting Entity

We are pleased with the government's adoption, in principle, of the criteria recommended by the CICA for including organizations in the government's financial reporting entity. By so doing, British Columbia has become a leader in Canada in using a form of consolidated reporting that is considered to be the best way of providing an understandable overview of all the financial affairs and resources for which the government is responsible.

However, the government's application of these important reporting entity criteria to the preparation of its Consolidated Financial Statements for the 1989/90 fiscal year has not, in our opinion, been carried out completely. We comment further on this in another section of this report entitled, "Defining the Government Reporting Entity."

Guaranteed Debt

Before the 1989/90 fiscal year, the government recorded the cost of losses on its loan guarantee programs only when actual payouts of guarantees were made to lenders.

To help smooth out the effects of payouts on loan guarantees, the government has now approved setting up a provision for probable losses when loan guarantees are issued. The result of this policy change in the fiscal year ended March 31, 1990, was a charge of $4 million to expenditures and the inclusion of $4 million in the government's year-end accounts payable. We agree with this change in accounting policy.

Definition of "Authorized" for Contributions Accounting Policy

The Auditor General's 1990 Annual Report (pages 23 and 24) commented on certain significant contributions, recorded as expenditures in the 1988/89 fiscal year, which had been authorized by government officials on a verbal basis only. We stated that such

authorization should be in writing so that the expenditure of funds could be adequately supported and the authorization itself verified. We recommended that the government's policy and procedural manuals be amended to specify that all ministry expenditure authorizations be documented in writing, including those relating to contracts, agreements and statutes.

We are pleased to report that in April 1990 the Treasury Board issued an amended definition of the term "authorized" as it relates to contribution expenditures. This amended definition now incorporates the word "written" when referring to contracts, agreements, and statutes. It also states that an authorization date is the date a contribution recipient is notified "in writing" of the amount to be paid.

The problem that has arisen in the past with respect to verbally authorized contributions should now be resolved as a result of this clarification in the definition of the term "authorized."

Amounts Recoverable Through Future Appropriations

The government's balance sheet as at March 31, 1990, contains as its largest asset a category titled "Fiscal Agency Loan Program". This asset category is actually made up of cash and temporary investments ($54 million), set aside to provide future loans to government bodies, and of amounts receivable from government bodies ($6,233 million) for loans already made to them.

Included in this latter sum are amounts owing from the province's universities, colleges, institutes, hospital districts, school districts, and other public organizations such as British Columbia Transit. Many of these organizations have few sources of funds from which to repay the amounts owed to the government—except, of course, out of their receipt of future appropriations of funds from the government itself. The question that follows is whether such amounts should properly be considered and classified as "assets."

Professional accounting terminology prescribes that assets should possess certain essential characteristics, such as the capacity to contribute to future net cash flows. Assets are defined as money or money equivalents (e.g., investments), or the expectation of future benefits. The CICA's Public Sector Accounting Statement 3 defines financial assets for government financial statements as being those assets on hand which could be used to discharge existing liabilities or finance future operations. Amounts receivable by the government from government bodies—amounts which can be expected to be repaid out of future appropriations from the government itself—would not appear to meet the tests for being considered as "assets."

Aside from whether amounts should be treated as assets or not, there are means of reducing the recorded value of assets to their net realizable value at the balance sheet date.

The most common method for reducing the book value of assets to their estimated net realizable value is

to provide for valuation allowances. These are deductions from the face value of assets, such as amounts receivable or invested. Public Sector Accounting Statement 3 recommends that valuation allowances be used so that financial assets are reflected at their net recoverable, or other appropriate, value. Such valuation allowances are to include allowances for amounts recoverable only through future appropriations.

Amounts recoverable of this nature, included in the government's Fiscal Agency Loan Program asset category, are represented mainly by amounts owing from British Columbia Transit ($920 million) and from the province's health and education organizations ($2,040 million). British Columbia Transit does not generate a financial return on its operations sufficient to service its debt. The province's annual contributions toward the payment of health and education debt service costs has, in recent years, approximated 78% of those costs. Thus, of the total $6,233 million amount receivable within the government's Fiscal Agency Loan Program asset category, approximately $2,500 million will require repayment out of future appropriations from the government itself. No allowance or other separate form of recognition has been established to alert financial statement readers of the status of the collectibility of the content of this significant asset category.

In other provincial government jurisdictions, similar types of assets are found and their valuation considered. For example, Ontario, in 1986, removed from that province's accounts certain financial assets which were to be repaid out of future provincial expenditure appropriations. New Brunswick did the same in 1988. In Saskatchewan, the Provincial Auditor has found it necessary to include a reservation to his audit opinion on that province's financial statements because of an amount included in the asset category "Loans to crown entities"—an inclusion considered to be inappropriate since repayment thereof depends on future appropriations from their province's Consolidated Fund. Manitoba and Prince Edward Island government financial statement notes inform the reader of asset amounts that are dependent on future government appropriations for their repayment.

An alternative method of treating the amounts loaned to organizations having little or no means of repayment, is to classify these amounts as deferred charges. A deferred charge is an expenditure, the benefit of which will extend over a period of years. The expenditure amount is initially carried forward and reported as a form of asset, and then is charged to expense over a period of years.

We consider this to be a very significant accounting and financial reporting issue. We therefore recommend that it be carefully researched and the standards and practices used elsewhere in Canada be reviewed, so that those amounts owing to the government and to be repaid out of future resource appropriations from the same government can be rationally recorded and valued.

Accounting for Government Pension Obligations

In our 1990 Annual Report, we commented on the subject of the government's pension obligations, and the manner in which they were reported in its financial statements. We observed that, while certain basic pension information was being provided, data about pension liabilities and costs were not recorded in the government's accounts and financial statements. We concluded by recommending that the government work toward implementing the recommendations contained in the CICA's Public Sector Accounting Statement 5 titled, "Accounting for Employee Pension Obligations in Government Financial Statements."

According to Statement 5, where pension liabilities have not been recorded, financial statements do not adequately provide all of the information needed by users to help them assess a government's financial condition and results of operations. It further states that financial statements should account for a government's total pension liabilities, to show clearly the extent to which pension obligations are to be paid from cash to be raised from future tax and other revenue sources.

While the matter has since been further studied by the government, no changes were made in the manner and extent of reporting pension information in the government's financial statements for the 1989/90 fiscal year. They still do not provide information on the government's liabilities or the costs of those pension funds for which it has a statutory funding responsibility.

We note that the Government of Canada, in its financial statements for the fiscal year ended March 31, 1990, is complying with the CICA recommendations. Furthermore, we understand that governments of other provinces are also moving toward implementation.

With this in mind, and considering the importance of this information to an evaluation of the government's financial condition and results of operations, we again urge the government to deal with this matter expeditiously, so that the appropriate pension information can be incorporated in the government's accounts and financial statements for the 1990/91 fiscal year.

Timely Issuance of the Public Accounts

Financial accountability information provided by government is most useful if it is released for public consideration on a timely basis. This theme was put forward in the Auditor General's 1989 Annual Report to the Legislative Assembly (pages 19 and 20).

We believe the annual Public Accounts should be presented as early as possible after the March 31 fiscal year-end to the Members of the Legislative Assembly, whether or not they are in session, and to the public. These Public Accounts include the government's audited financial statements, along with the audited statements of government

organizations and enterprises, and of trust funds under the administration of the government.

The Public Accounts are a requirement of the *Financial Administration Act* and, although the Act calls for the government's financial statements to be finalized by September 30 of each year, it does not specify a date by which the Public Accounts containing those statements should be released. Historically, release has occurred during the next sitting of the Assembly, which has most often been the following spring.

The Select Standing Committee on Public Accounts, in its first report for the third session of the Thirty-fourth Parliament dated July 20, 1989, recommended that "the government consider the ways and means by which the Public Accounts for the Province of British Columbia can be made publicly available as soon as possible after the end of the fiscal year for which they have been completed."

This was an encouraging and useful development, being official recognition by a committee of legislative members of the need for more prompt financial accountability reporting.

In 1990, the subject of timely issuance of the Public Accounts was again discussed by the Select Committee. On July 25, 1990, the First Report of the Select Standing Committee on Public Accounts for the Fourth Session of the Thirty-fourth Parliament was presented in the House for discussion and approval. During the resulting discussion, Mr. Mercier, Deputy Chairman of the Committee, announced to the House that the government had agreed to a major policy change:

> The major change in policy is that, commencing with the fiscal year ending March 31, 1991, the Public Accounts will be issued along with the Auditor General's Report immediately after their preparation, notwithstanding that the Legislature may not be in session. (Hansard, page 11446, July 25, 1990)

We believe this will be an important improvement to the accountability process, which will undoubtedly be welcomed by those with an interest in the financial affairs of the province.

Comments Arising from the Audit of Public Bodies, Including Statutory Pension Plans

Public Bodies

The government's Consolidated Financial Statements for the 1989/90 fiscal year include the financial activities of central government and the balances and operating results of 33 public bodies owned or controlled by the government. The combined assets and expenditures of these public bodies amounted to $18.5 billion and $6.9 billion, respectively. Of these, 13 public bodies with total assets of $2.5 billion and expenditures of $1.7 billion were audited by this Office, and another 19 with total assets and expenditures of $16.0 billion and $5.2 billion were audited by private sector auditors. One small public entity was not audited.

In addition to the audits of public bodies included in the government's financial statements, our Office was responsible for the audits of a further 19 public bodies with assets and expenditures of $22.6 billion and $16.3 billion, respectively. Also, as part of our audit of the government's General Fund, we audited the Liquor Distribution Branch whose assets and expenditures totalled $72 million and $865 million, respectively.

During the past year, the financial statements of three newly created public bodies were included in Volume II of the Public Accounts. In the case of the British Columbia Pooled Investments Portfolio, Canadian Equity Index Fund, the Auditor General was appointed auditor, and its financial statements are included with the Trust Funds, Section G. Private sector firms were appointed to audit the British Columbia Trade Development Corporation and the British Columbia Year of Music Society, both of which were included in the consolidated statements of the government. The financial statements for these two organizations are included in Section F.

Appendix G lists those public bodies audited by our Office. Appendix H lists those public bodies which have private sector auditors, and whose financial statements are included in Volume II of the Public Accounts.

Audits of Public Bodies

The preparation of public body financial statements is the responsibility of management, who determine statement form and content and the accounting and disclosure policies appropriate for the organization's activities. The auditor's responsibility is to express an opinion as to whether the financial statements present fairly the financial position and operating results of the audit entity in accordance with appropriate accounting policies, consistently applied.

In connection with our audit of the government's financial statements, we obtain audited financial statements, together with additional audit information, from the auditors of all the public bodies that we do not audit, and whose financial statements are included in the government's Consolidated Financial Statements. During this past year, neither we nor the various private sector auditors had any significant disagreement with the financial statements prepared by management. Accordingly, all audit opinions on the financial statements of public bodies were issued without reservation.

Two auditors' reports did note limitations in the scope of the audit examination. Similar to last year, the Auditor General, in his report on the British Columbia Long Term Disability Fund, stated that he was unable to obtain sufficient audit evidence to support the accuracy of the unreported claims liability. Management had undertaken to re-examine the formulas and calculations used to support the liability, but had not completed this task by the time the audit was completed.

In the case of the British Columbia Heritage Trust, the private sector auditors stated that they were unable to satisfy themselves as to the accuracy of revenues and expenditures at one of the heritage sites owned by the Trust, due to the incompleteness of accounting records at that site.

The Auditor General, in his audit of the financial statements of a public body, is expected to examine and report on other significant matters, such as compliance with legislative authorities and the adequacy of accounting systems and controls. Accordingly, at the beginning of each audit, significant financial and administrative authorities are identified and, during the audit, selected transactions are examined to determine whether each complies with the identified authorities. Selected internal control and information systems are also reviewed to determine their reliability.

At the end of this work, we send a letter to the management of each public body reporting any audit concerns and, where appropriate, making recommendations for remedial action. Where a reported matter is considered to be significant, we may also comment on that issue in our Annual Report to the Legislative Assembly. Matters raised to date with management of public bodies through our management letters have received careful attention and continue to be satisfactorily dealt with.

British Columbia Hydro and Power Authority Preferred Funding

In last year's Annual Report we commented on the different treatments given by the Province and the British Columbia Hydro and Power Authority (B.C. Hydro) of a long-term advance the Province made to B.C. Hydro in the 1988/89 fiscal year. The $235 million in "preferred funds" was provided to B.C. Hydro by the Province through its Fiscal Agency Loan Program, a program under which the Province borrows

money, and then lends it to a government body.

As of the date of this report, the differing financial statement treatments previously referred to remain unchanged. The advance is included in the government's financial statements as a fiscal agency loan receivable. On the other hand, B.C. Hydro, following the terms of the agreement made when the sum was advanced, has shown the figure in its financial statements as "Preferred Funding," separate from long-term debt and other liabilities. Payments to the Province toward the cost of providing the funds are described as "dividends" in the B.C. Hydro statements.

We believe that, under section 42(15) of the *Hydro and Power Authority Act*, a sinking fund should be established to redeem the advance. However, B.C. Hydro believes the preferred funding to be in the nature of equity and so has not established such a fund.

As the Province and B.C. Hydro are public entities dealing with each other on a non-arm's length basis, we urge them to clarify the nature of this funding, harmonize the accounting for the funding transactions, and determine whether a sinking fund should be established.

Information on Public Bodies in the Public Accounts

In earlier annual reports we suggested that the government review the information on public bodies provided in the Public Accounts. In particular, we proposed that readers be made aware of the financial accountability information which is now publicly available through the provisions of the *Financial Information Act*. We are pleased to note that this year's Public Accounts Volume II has been reformatted with this in mind.

Volume II of the 1989/90 Public Accounts contains the financial statements for all public bodies included in the government's Consolidated Financial Statements, as well as the financial statements for all trust funds, including pension, superannuation, and investment funds administered by the government. It also provides details as to the public bodies covered by the *Financial Information Act*, and outlines the kinds of information that any member of the public may obtain directly from such public bodies.

New Guidelines for Non-Profit Organizations

The Accounting Standards Committee of the CICA, in addition to making accounting recommendations for commercial activities, continues to take a leadership role in issuing such recommendations for non-profit organizations. These recommendations are designed to bring consistency to the financial reporting of not-for-profit entities, thus providing more meaningful and comparable information by which they can be measured. Many non-profit organizations are in the government sector and, accordingly, the Public Sector Accounting and Auditing Committee (PSAAC) of the CICA is working with the Accounting

Standards Committee to achieve consistency in accounting standards as they relate to both private and public sector non-profit organizations.

At present, the Accounting Standards Committee is developing recommendations on the accounting for capital assets by non-profit organizations, as well as recommendations on the type, form, and content of the financial statements of those organizations. Other projects currently being undertaken by the CICA include defining the reporting entity, fund accounting, and accounting for revenue and capital. Through direct representation on PSAAC, and by regular submissions made to the respective committees on their proposals, our Office actively participates in this important standard-setting process.

Statutory Pension Plans

Introduction

A government's pension obligation represents a promise to provide future benefits in return for the past and current service of its employees. The implications of pension arrangements have assumed increasing importance for most Canadian public sector employers. A recent article in a financial periodical indicates that employee pensions taken together represent a significant unfunded liability of Canadian governments, totalling more than $100 billion and growing rapidly. In British Columbia, the unfunded liabilities for pension plans covered by acts of the British Columbia legislature (statutory plans), consisting of the Public Service Superannuation Plan, the Municipal Superannuation Plan, the Teachers' Pensions Plan, and the College Pension Plan, exceed $3 billion (Table 1.1).

The legislative acts establishing the Public Service and College plans make the government responsible for guaranteeing the payment of pensions should there be a shortfall of funds available in any year to pay pensions. In addition to this guarantor role, the government, as administrator, has a trustee responsibility. The acts establishing the Teachers' and the Municipal plans do not involve the government as a guarantor, but only as a trustee. However, since the government has sole responsibility for establishing plan contribution rates, we believe there may be an expectation on the part of those concerned that the government would also fund deficiencies in these two plans, even though it has no statutory obligation to do so.

Each legislative act charges the provincial government with the administration of these statutory pension plans. This responsibility is carried out by the Superannuation Commissioner. In addition to processing the plans' day-to-day pension transactions, the Commissioner provides long-term direction to ensure the continuing financial health of the plans. In carrying out this responsibility, the Commissioner makes recommendations to the government, including suggested adjustments to employer and employee contribution

TABLE 1.1

Summary of Public Service Statutory Pension Plans

Sources: Plan Financial Statements and Actuarial Reports

Statutory Plan	Unfunded Liability				Contribution Rates*	
	Prior Valuation (deficit) $	Latest Valuation (deficit) $	Latest Valuation Date	Change Decrease (Increase) $	Actual	Recommended by Actuary
Public Service Superannuation Plan	(555,858,000)	(456,062,000)	Mar.31,1987	99,796,000	14.0%	14.1%
Municipal Superannuation Plan	(855,352,000)	(1,082,186,000)	Dec.31,1988	(226,834,000)	12.2%**	12.67%**
Teachers' Pensions Plan	(1,392,116,000)	(1,605,045,000)	Dec.31,1987	(212,929,000)	15.7%	16.81%
College Pension Plan	(60,891,000)	(29,814,000)	Aug.31,1988	31,077,000	13.0%	15.14%
MLA Superannuation Account	***	***	***	***	18.0%	***

* Combined employer and employee rates

** Average of four individual groups

*** No valuation performed. Amounts contributed are transferred to the Public Service Superannuation Plan (PSSP) when MLAs retire. Any shortfall between amounts held in the account and the benefits earned by MLAs at the retirement date, is paid by the government into the PSSP. Pension benefits are paid to MLAs through the PSSP.

rates intended to protect future pension payments. In addition, the Commissioner publicly reports on the plans' financial condition by producing and distributing annual fund financial statements for each plan. The statements are audited by the Auditor General and are included each year in the province's Public Accounts.

In the course of our audit work, we have identified several current issues which need to be addressed. The following is a discussion of these issues.

Funding the Pension Plans

One of the main responsibilities of the provincial government as trustee of the pension plans is to ensure their continuing financial health. This responsibility implies a duty to ensure that funding of the statutory plans through employer and employee contributions is sufficient to maintain the pension plans' finances, and that funding is done in an orderly manner. Orderly funding is necessary to prevent costs from fluctuating significantly from

period to period, and to help ensure that employees will receive promised benefits as pension payments become due.

To help decide the level of funding appropriate for the plans, the government relies on advice from actuaries. In determining the amounts that the government and employees should pay, an actuary makes assumptions about mortality, retirement ages, wage and salary increases, terminations of employment, interest rates, and other relevant factors. Actuaries are asked to review the assumptions and revalue the plans at least once every three to five years, to determine if the rates of contribution are still appropriate.

Funding Methods

After consultation with the government, the actuaries choose the funding method most appropriate for the pension plans. For example, if one of the government's objectives is to have a level funding requirement over the years rather than one that fluctuates unpredictably, the funding pattern selected should meet this objective. The various funding methods can generally be classified into two distinct groups: "accrued benefit" methods and "level contribution" methods. The principle underlying accrued benefit funding methods is that the pension benefit earned or accrued each year of plan membership is bought or funded in that year. The principle underlying level contribution funding methods is that the pension benefits for all future years up to retirement are bought or funded by contributions which are averaged over those future years. Because, as a general rule, level contribution funding methods result in more stable annual contribution rates than do accrued benefit funding methods, a level contribution method has been chosen for funding the four British Columbia statutory pension plans.

Periodic Valuations of Statutory Pension Plans

To determine the financial condition of the pension plans, an independent actuary performs periodic valuations of future benefits to be paid under the plans, and of the assets that will be available to pay the benefits. Where the present value of prospective pension benefits exceeds the present value of both estimated future contributions and existing fund assets, an unfunded pension liability is said to exist. The actuary may recommend changes in the existing contribution rates if a funding problem is perceived.

Our review of past valuations of each of the statutory pension plans indicates that, except for the Public Service Superannuation Plan, the current contribution rates are somewhat less than those required under the level contribution funding method (Table 1.1). During the periods covered by these valuations, the absolute amounts of the unfunded liabilities of the Municipal and Teachers' plans have risen significantly. The actuaries of these two plans have recommended that the contribution rates be increased to at least those required under the level contribution funding method. The actuary for the College Pension Plan has recommended that contribution rates for that plan also be increased,

even though there has been a recent decrease in the unfunded liability of the plan.

We are concerned that the government has not, to date, adopted the actuaries' recommendations to increase contributions to the plans, so as to follow its policy of level contribution funding. The Teachers' and Municipal plans are of particular concern because there is no statutory guarantee provision should the plans fail. Although the actuaries feel there is little risk of failure occurring, it remains that inadequate funding today may place an unfair cost burden on future generations.

Inflation Indexing

The legislation governing each of the statutory plans lays out the terms and conditions of the plan, including calculations of benefits, and member and employer contribution rates. Each plan provides basic pension benefits as well as inflation indexing and, as a result, member and employer contributions include both a basic component and an inflation indexing component to fund these benefits. Amounts contributed for inflation indexing are accumulated in an Inflation Adjustment Account. Legislation covering each plan provides that indexing shall only be paid if there is money available in these special accounts. However, we believe most plan members assume that they are guaranteed inflation indexing following retirement.

Because there is no guarantee in the statutory plans that inflation indexing will be paid, we believe the government should be performing regular reviews of the financial condition of inflation indexing accounts, and communicating to plan members the results of such reviews. This would give plan members the information needed to assess whether the plans will be able to pay inflation indexing following their retirement.

Financial Reporting For Pension Plans

A pension plan is a trust arrangement between an employer and its employees, whereby assets are accumulated to pay for benefits promised to employees. Because employees generally provide their services long before they receive the benefits they have earned, they are concerned with the security of those future benefits. A pension plan's financial statements, therefore, need to provide information about:

- plan resources, and how the stewardship responsibility for those resources has been discharged;
- the accumulated plan benefits of participants; and
- the results of transactions that affect those resources and benefits.

Pension plan financial statements should therefore deal not only with the plan's assets and any changes to them, but also with plan benefit obligations and changes in those obligations.

In March 1990, for the first time, the CICA issued accounting recommendations for pension plans, to be effective for the fiscal years beginning after July 1, 1990. The

recommendations include a requirement for information which is not presently disclosed in the financial statements prepared by the Superannuation Commissioner. These statements account for plan resources and changes in those resources, and demonstrate the stewardship over the resources entrusted to the government. They do not, however, disclose the accumulated benefits earned to date by plan members, nor do they provide information with regard to changes to those benefits. The CICA believes that this is important information for plan members, and recommends that such information be provided in pension plan financial statements. It also recommends the use of a particular actuarial method for calculating the benefits earned.

Accordingly, if the financial statements of each of the statutory pension plans are to comply with the CICA standards, changes to their content and format will be required, particularly with respect to the calculation and disclosure of information about benefits earned.

Actuarial Valuation of the Members of the Legislative Assembly (MLA) Superannuation Account

The *Legislative Assembly Allowances and Pension Act* does not require periodic actuarial valuations of the MLA Superannuation Account. Accordingly, no such valuation has been performed to date. The Act requires the government to fully fund, at the time of a member's retirement, any shortfall between amounts held in the account for an MLA's pension and the value of that pension. The total amount is then transferred to the Public Service Superannuation Fund and the MLA receives his or her pension from that fund.

The amount of the shortfall at any point in time can be substantial. For example, during the year ended March 31, 1987, a funding shortfall of $6.9 million was created when a number of MLAs retired. While this amount was accounted for in the government's financial statements, the cumulative cost of pension benefits earned by those MLAs who did not retire was not reflected in the accounts. By not requiring an actuarial valuation, the government does not know the amount of the funding liability for this account at a particular point in time and, accordingly, does not include the amount as part of its unfunded pension liability reported in the Public Accounts.

We recommend that the government's commitment for accrued pension benefits earned to date by MLAs be estimated and disclosed in the Public Accounts.

Part II:
Value-for-Money Audits

Part II: Value-for-Money Audits

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Introduction to Value-for-Money Audits

This year's Annual Report contains the results of value-for-money audits conducted in the Ministry of Forests and in the Ministry of Transportation and Highways.

We conducted three value-for-money audits in the Ministry of Forests as part of our continuing program of auditing, on a cyclical basis, the larger and more significant programs or functions administered by government.

The three audits have a common theme: how the ministry monitors the activities of forest companies in Crown forests. Specifically, we examined how the ministry ensures that these companies meet their obligations when they build roads, harvest timber, and reforest the areas they have harvested.

Because of the size of the Ministry of Forests, and the significance and complexity of the issues it is responsible for, we have scheduled our audit coverage over a two-year period. We plan to include in next year's Annual Report the results of further audit projects in the ministry.

Our audits this year in the Ministry of Transportation and Highways complete our audit coverage begun last year in the ministry. The reports resulting from those initial audits were included in our Annual Report last year. This year we conducted four further audits. We examined how the ministry decides what new roads to build and what roads to upgrade; whether the ministry ensures the province's road and bridge network is protected and maintained at the least lifetime cost; whether the ministry determines that road and bridge maintenance work designed to maintain the physical condition of the road is done properly; and, whether the ministry manages minor capital and rehabilitation projects in a way that achieves good value for money.

At the conclusion of each value-for-money audit, we provide those responsible for managing the program with an opportunity to respond to our audit reports. The responses received from the Ministry of Forests are reproduced directly following the three reports that resulted from our audits. The Ministry of Transportation and Highways' responses follow our reports on that ministry.

It takes time to implement the recommendations that arise from value-for-money audits. Consequently, when ministries initially respond to our reports just after the audits have been completed, they frequently are only able to indicate their intentions to resolve the matters raised by our audits, rather than describing their actions to do so. Due to the nature of value-for-money audits and the matters raised by them, we usually only follow up on these audits when the next audit of

the program area is undertaken. Without further information, however, legislators and the public would not be aware of the nature, extent and results of management's remedial actions. Therefore, we believe it is useful to obtain and publish updates of management's responses to the value-for-money audits we reported in the preceding year.

The written comments received from the ministries that were the subject of value-for-money audits last year are published at the conclusion of this part of our Report.

Ministry of Forests: Introduction

In 1990, we performed three value-for-money audits in the Ministry of Forests. These projects were done as part of our cyclical coverage of all significant operations of government.

The three audits we conducted have a common theme: how the ministry monitors the activities of forest companies in Crown forests. Specifically, we examined how the ministry ensures that these companies meet their obligations, including managing, protecting, and conserving the forests when they build roads, harvest timber, and reforest areas they harvest. We chose to audit these aspects of the ministry's operations for several reasons.

About 85% of the province's total area is designated as provincial forests. Approximately one-third of this area is considered to be suitable for timber harvesting. Provincial forests are managed for all resource values and have long had a significant impact on the provincial economy. Managing, protecting, and conserving them is vital to the long-term interests of the province. That job is entrusted to the Ministry of Forests.

The majority of the activity in the forests is carried out by forest companies. Each year they build and maintain an extensive network of forest roads and harvest about 76 million cubic meters of wood on 240,000 hectares of land. They also reforest areas harvested, spending about $200 million per year for that purpose.

Forest companies carry out their activities in the forests under contractual arrangements, called forest tenures, entered into with the ministry. Companies holding the two major tenure types, Tree Farm Licences and Forest Licences, harvest approximately 82% of the annual

timber harvest. Companies operating under the Small Business Forest Enterprise Program harvest 13% of the annual cut and other smaller licensees harvest the remaining 5%.

Forest companies with major tenures are responsible for the building and maintenance of roads, as well as for reforestation. They bear these costs in addition to stumpage and other charges paid directly to the Crown. Where roads and silviculture costs are borne by the Province, higher stumpage charges are normally required.

The activities of forest companies can expose the forest to a number of risks. The ministry sets conditions for road building, harvesting, and silviculture to minimize those risks. Road building and harvesting can endanger the forest if they are not carried out properly. Substandard roads can cause slides and flooding that destroy productive land. Poor harvesting practices can bring destruction to soil, streams, and recreational areas. If silviculture is poorly done, it can significantly delay the renewal of the forest, and result in licensees wasting large expenditures. The ministry needs to be present in the forest to get assurance that ministry standards are complied with and that Crown forest resources are managed, protected, and conserved.

Background of the Ministry

The mandate of the ministry under the *Ministry of Forests Act* is to:

- encourage maximum productivity of the forest and range resources;
- manage, protect and conserve those resources, integrate the management of all forest uses;
- encourage a healthy timber processing industry; and

- assert the financial interest of the Crown.

The ministry's operations are carried out through 6 regional offices, 43 district offices, and headquarters in Victoria. The ministry employs approximately 3,400 people. During the year ended March 31, 1990, it collected $651 million from forest companies and spent $538 million on its programs.

The ministry has faced significant challenges during the last 12 years. In 1978, three new pieces of legislation were enacted: the *Ministry of Forests Act*, a revised *Forest Act*, and a new *Range Act*. These new Acts significantly increased the ministry's responsibilities and resulted in extensive changes in its operations. The new responsibilities included a requirement for integrated forest management, greater consultation with other agencies and the general public, and a periodic analysis and yearly update of the forest resources. At that time, ministry operations were decentralized, giving the districts substantial authority to make operational decisions.

In 1980, the Small Business Enterprise Program (since renamed the Small Business Forest Enterprise Program) was established to create opportunities for small operators to bid on Crown timber. The demands of the new program required the ministry to allocate significant staff resources to it. Under the program, the ministry acts in the same capacity as major licensees: it plans, builds roads, reforests harvested areas, and performs other required functions.

In October 1987, changes were made to the *Forest Act* to make major licensees responsible for basic silviculture. As a result of these changes, the ministry switched from its traditional role of monitoring specific activities to that of auditing a licensee's overall compliance with its obligations.

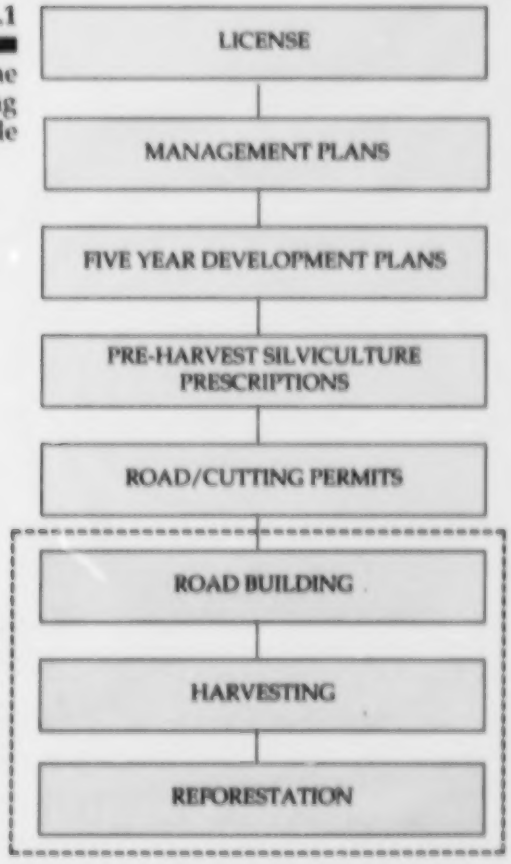
The ministry's approach to monitoring has also undergone a number of changes. In the early

1980s, the government decided to reduce direct monitoring of licensees by the ministry and instead to allow industry to monitor its own activities, with the ministry auditing only a sample of areas. After a period of approximately two years, the ministry reverted to having its own staff monitor forest company activities. However, when major licensees were made responsible for basic silviculture in 1987, the ministry continued to audit a sample of licensees' areas so as to assess compliance.

The ministry also changed significantly how it carries out its programs. In the early 1980s, the ministry had a staff of approximately 5,500. During the early 1980s time of government restraint, the ministry's staffing level was reduced to 3,700. Further reductions have since been made which resulted in the current level of staff being about 3,400. As a result of these reductions, the ministry has transferred delivery of significant portions of its programs to the private sector. Much of the work previously performed by ministry staff is now performed by private sector companies on contract.

FIGURE 2.1

The Harvesting Cycle



Monitoring of these activities - the focus of our audit

Importance of Monitoring of Licensee Performance

Since the Crown owns the majority of forest lands in the province and most of the forestry activity on these lands is carried out by forest companies, it is important that the ministry act as a prudent landlord in ensuring that Crown resources are managed, protected, and conserved.

To this end, the ministry has undertaken a variety of activities which fall into two broad phases: planning and implementation.

The planning phase is designed to establish strategies and set objectives, conditions, and standards. This phase begins with the development of Timber Supply Area plans, followed by the more specific Development Plans, Cutting Plans, and Pre-Harvest Silviculture Prescriptions, and results in the issuance of an authority to harvest timber and build roads. Our audits

did not examine the ministry's efforts in this area.

In the implementation phase, the necessary permits are issued to allow forest companies to begin road building, harvesting, and forest renewal activities. The ministry begins its field monitoring at this stage. It is this monitoring activity that has been the focus of our audits (Figure 2.1).

Our Assessment

We concluded that, overall, the ministry's monitoring practices do not give adequate assurance that forest companies meet ministry requirements to manage, protect, and conserve Crown forests resources. There are significant province-wide deficiencies in the ministry's monitoring of road building and maintenance, harvesting, and silviculture. However, we found that the ministry has generally done a good job of communicating its requirements to forest companies, and in ensuring that its monitoring staff use those requirements as a basis for monitoring.

We also found that the ministry does not systematically collect and organize information on the results of the monitoring it is doing. As a result, management has no overall summary to allow it to determine whether its activities are achieving monitoring goals and whether they are effective. Furthermore, the ministry is not providing the Legislative Assembly with sufficient information on the results of its monitoring activities.

Before the audit, the ministry had already recognized a number of these deficiencies and taken steps to correct them.

The Legislative Assembly should expect the ministry to clarify what it aims to achieve through its monitoring and to structure these activities more rigorously. It should also expect the ministry to develop a system to collect the results of its monitoring activities and report these findings to the Legislative Assembly.

Attributes of a Monitoring System

An effective monitoring system requires the following elements: well-defined objectives and standards for performance; clear procedures for carrying out the monitoring; and good management controls that provide information on whether the monitoring objectives are being achieved.

Setting monitoring objectives is the cornerstone of a monitoring program. Clear objectives are needed to articulate what the monitoring program is expected to achieve. That in turn helps determine the type of organization required, the procedures to be undertaken, and the resources needed to carry out the monitoring.

To ensure that the forest companies know what standards they are judged against and that ministry staff know what to monitor, management has to set standards of performance. These should include a clear definition of what is considered acceptable performance and what is poor performance. They should also include procedures for dealing with problems found in the monitoring process. It is important that the rules be well understood by licensees as well as by ministry staff.

After dealing with these issues, management can then decide how the monitoring should be carried out. It can determine what resources are needed to carry out the work and how to allocate the resources. Management has to ensure that staff allocated to perform monitoring are qualified and adequately trained, and that the monitoring process is uniformly carried out at all locations.

Finally, an effective monitoring system requires a reliable management information system. Such a system allows management to find out whether its monitoring objectives are being achieved and, if not, to make changes. Good management controls also include a quality control system that provides management with the assurance that monitoring activity is performed at the quality expected.

Clearly, the monitoring practices of the Ministry of Forests are critical in ensuring that the province's forest resources are managed, protected, and conserved, and that forest companies meet their obligations. In the following sections, we report the results of our review of the ministry's monitoring activities in the areas of road building and maintenance, harvesting, and reforestation.

Ministry of Forests: Monitoring of Forest Roads

A review of how the Ministry of Forests monitors forest companies' building and use of forest roads

Audit Purpose and Scope

We conducted this audit to determine whether the ministry's monitoring practices give it adequate assurance that forest companies, when building and using forest roads, meet ministry standards and requirements for providing a useful forest road network and for protecting the Crown forest.

Our audit examined monitoring carried out during road construction and use, after planning had been completed and permits issued. In this report, monitoring means field visits carried out by ministry staff to ensure that licensee activities meet ministry requirements.

We carried out our audit between August and December 1990. Our examination was performed in accordance with the value-for-money auditing standards recommended by the Canadian Institute of Chartered Accountants, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

Overall Conclusion

We concluded that the ministry's monitoring practices do not give it adequate assurance that forest companies, when building and using forest roads, meet ministry standards and requirements for providing a useful forest road network and for protecting the Crown forest.

The ministry has not developed a coordinated strategy for monitoring roads. It has not analyzed and defined either the aims of its monitoring program or the risks that monitoring protects against.

Ministry staff monitor road activities infrequently, and document the conditions they find poorly. The ministry does not have the information it needs to adequately judge its monitoring performance and to report on this to the Legislative Assembly. However, it is making progress in some areas, such as developing specifications for road construction and use, and staff training.

The Importance of Forest Roads

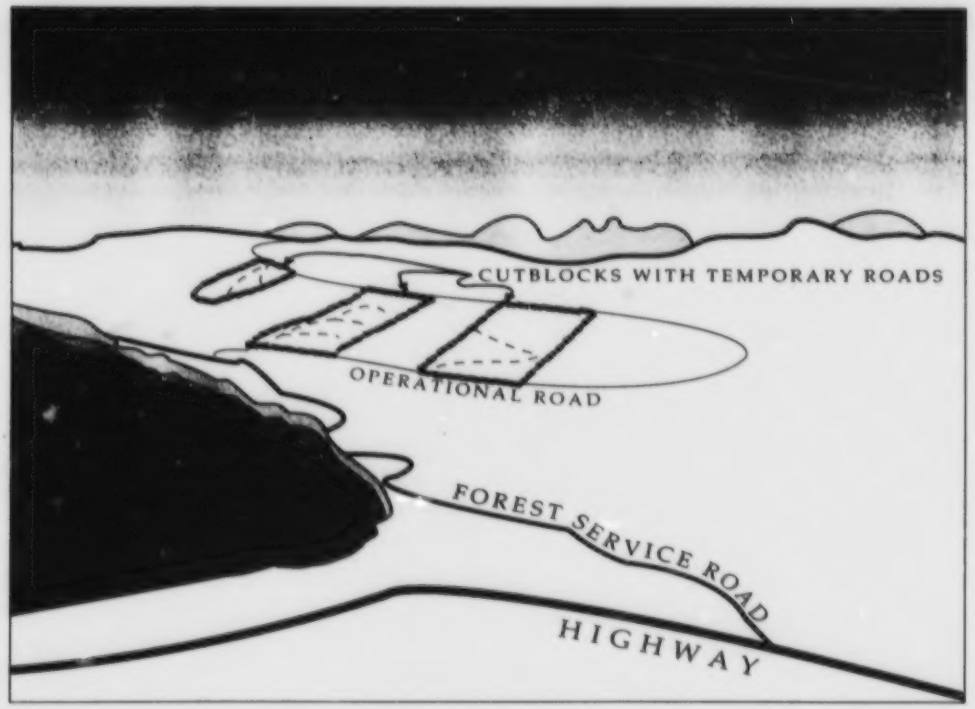
Forest roads are essential for modern logging. Almost all wood reaching the province's mills travels at least part of the way by logging truck. As a result, the forest road network is very large.

Forest roads are either Forest Service roads or operational roads. Forest Service roads are main logging roads built for the ministry but maintained by the forest companies that use them. There are more than 33,000 km of these roads across the province. Operational roads are main roads both built and maintained by forest companies. The ministry estimates that these are two or three times as extensive as Forest Service roads. In total, Forest Service and permanent operational roads exceed in length the entire provincial highway system. Operational roads include temporary roads constructed within cutblocks, and required by most logging methods (Figure 2.2). The monitoring of these temporary roads is covered in the audit report that follows, called "Monitoring of Timber Harvesting."

Before allowing a forest company to build or use forest roads, the ministry checks that the planned activities meet ministry requirements. It then makes these requirements binding on the company, by incorporating them into the legal documents which give the company access to the road network. Monitoring is then carried out to make sure that all requirements are being met.

FIGURE 2.2

Types of Forest Roads



Permanent forest roads are valuable long-term assets. They often provide the only access into a forested area, for logging as well as for other uses. They also represent a sizable financial investment; the estimated replacement cost of Forest Service roads alone is well over half a billion dollars.

Such a large road network could not be developed without having a large effect on the forest. Roads that are not properly constructed and maintained can cause erosion, silting, and landslides, and can be a greater risk to the forest than is logging itself.

With such a large road network—and one that can affect the Crown forest so significantly—monitoring of forest roads is clearly an important part of the ministry's responsibilities.

Establishing Monitoring Objectives

The ministry's overall goals for managing forest companies' use of the Crown forest and road network are clearly stated in the *Ministry of Forests Act*. However, for its road monitoring activities, the ministry has not worked out and documented objectives that specify the processes by which monitoring will contribute to meeting the overall goals stated in the Act. As a result, the ministry cannot determine whether its monitoring is effective and efficient, and whether it is consistently performed in all districts.

The ministry must make several choices, either deliberately or by default, in developing a monitoring system.

One of the first steps in setting objectives is to determine the unit of measure, or scale, at which monitoring should focus. For example, suppose the ministry decides it can accept an X% risk that road surfaces are substandard. Does this then mean that no more than X% of any road, no matter how short, can be substandard? Or is the X% averaged over all the roads in one valley, or in one district, or under one license, or over the whole province? Clearly, the smaller the unit chosen, the more stringent is the performance requirement for forest companies, and the more difficult is the monitoring task.

Another important decision the ministry has to make is whether it wants to detect road-related problems, or to prevent them. For example, for a road being built by a forest company, the ministry wants to ensure that the road's construction meets ministry standards. It could detect deviations from these standards by monitoring after the work has been completed. Or, it could prevent them by being on site often enough during the work to stop them as they occur. It could also help prevent them by using standards, instructions and regulations to make sure the company knows how to build a road properly, and is motivated to do so.

In talking with ministry managers and staff, we found that many of them believe that the ministry's goal in monitoring forest roads is prevention. In reality, however, the ministry's road inspections are infrequent, and unlikely to be timely enough to provide the ability to catch problems as they occur. Prevention through instructions is also unlikely, because problems found during monitoring are poorly recorded and not always passed on to companies.

Choosing the unit of measure and deciding whether to prevent or detect are key decisions for a monitoring system. Once these decisions are settled, other choices must then be made to link these decisions to the practical details of carrying out monitoring.

First, the ministry has to decide whether to monitor process or results. For example, is it better to see that each step in building a road is carried out in a specified way, or rather that the completed road performs as it was designed to? Each choice implies a different timing of when monitoring should be done, and may require different training for the staff who do the monitoring. The decision may be to use both approaches, depending on the nature of the work to be monitored. For example, the most effective way to ensure that the subgrade under a road is made of the correct materials may be to have an inspector on site during construction, monitoring the process. On the other hand, to check that a road can bear the weight of fully loaded trucks, it may be more effective to monitor the result directly, using load-measuring instruments.

Second, the ministry has to choose what level of risk it will accept that it will not find problems. Attaining perfection is costly, so the ministry must strike a balance between higher monitoring costs and a greater chance that damage to the forest or the roads may not be

detected or prevented. Again, depending on the technical aspects of each activity, the ministry may choose different risk levels for different activities. For example, it may demand a higher level of assurance about whether a road's substructure is properly built than it will about whether a road is well graded. Errors in the subgrade may be costly to correct, and cause problems throughout the road's useful life. Poor grading can easily be corrected during the next regular maintenance.

We concluded that the ministry, not having worked out and documented objectives against which to measure monitoring performance, cannot adequately gauge and report on the effectiveness of its road monitoring efforts. We also concluded that because of this lack of clear objectives, the ministry's current efforts are not well integrated, so that maximum efficiency is unlikely to be achieved.

Specifying What Licensees Should Do

The ministry has developed sets of specifications which describe how it wants roads to be built and maintained. These specifications are an integral part of the permits and licenses issued to forest companies. They give ministry staff benchmarks to monitor against, and should encourage consistent road building and maintenance practices among companies and among districts. However, at present each region of the ministry has a different set of specifications, some more complete than others. The ministry is now remedying this by developing a single province-wide set of road specifications. We concluded that the most comprehensive regional specifications, which are the ones being used as the basis of the unified set, are reasonable benchmarks for monitoring.

Choosing How to Monitor

The ministry checks to ensure that its requirements are being met, primarily by having its staff carry out inspections. We found that the ministry does not have a systematic or consistent process to judge the risks to be monitored in these inspections. As a result, the inspection process varies from district to district. We also found that some staff lack the skills and training needed to carry out inspections effectively.

The ministry has begun to develop standards as to how often its staff should inspect roads under construction. It has not yet done so for road maintenance and road deactivation.

Analyzing the Risks

Forest roads have a complex range of potential problems, which vary according to the type of road activity under way, when and where such activity occurs, and who carries it out. Each of these potential problems differs in both the likelihood it will occur, and the seriousness if it does occur.

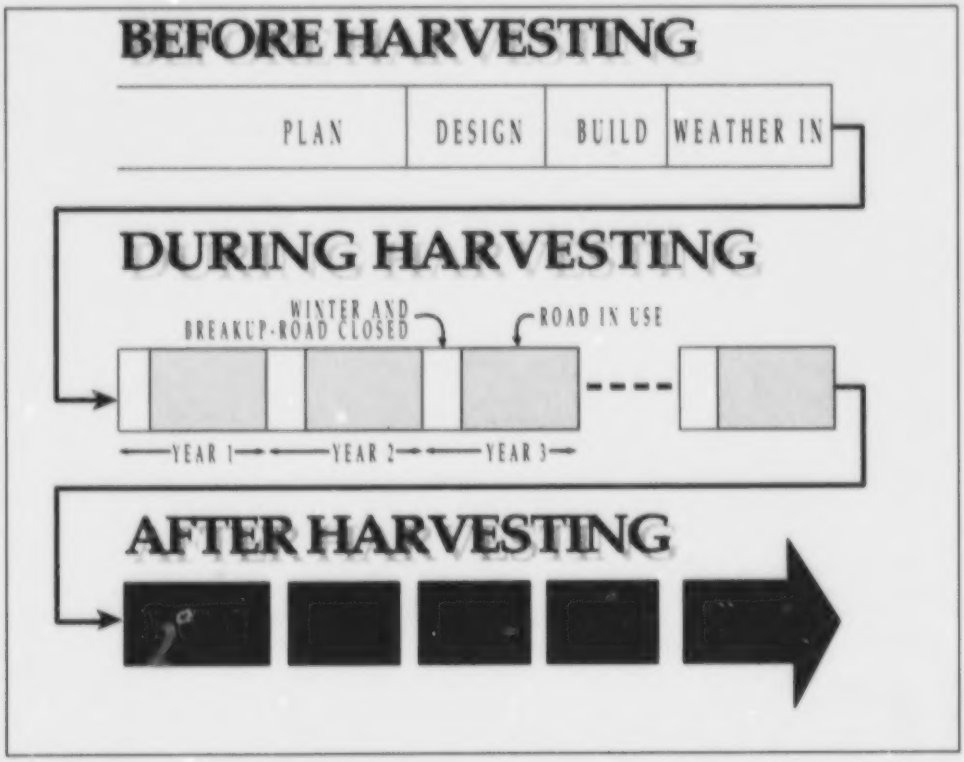
Deciding when to monitor is particularly important with roads, because the potential for problems

varies over the life cycle of each road. The beginning of the cycle—planning and constructing a new road—is important. Once the plans are approved and permits are issued, field monitoring begins. To what extent the approved route is followed and the required standard of construction is met affects both a road's impact on the surrounding forest and its value as an efficient, long-term transportation asset. Once the road is in active use, it needs regular attention. Grading, cleaning of ditches and culverts, and other maintenance should take place, as necessary, during the hauling season. After heavy rains, the road and its drainage system need inspection and repair. At season's end, they must be prepared for winter. Once a road is no longer needed, it should be deactivated, or put in a state where it can be safely left alone for several years (Figure 2.3).

Each of these stages in a road's life brings different risks, and may call for different monitoring strategies. For example, seeing that deactivation is properly done is critical, because inspections will occur infrequently afterwards. On the other hand, when a road is under active use, the companies using it have an interest in maintaining its surface. Therefore, ministry inspections may not need to be as frequent, and their timing can be more flexible.

A road's location also affects what needs monitoring. Construction checks are especially critical for roads on steep slopes, where slides can

FIGURE 2.3
Life Cycle of a Forest Road



occur, or beside streams, where road work can threaten fish habitat or domestic water supplies. The underlying rock and soil may also increase the risk of slides and thus create the need for more frequent inspection during construction. The rainfall patterns in an area can be critical too, affecting bridges, culverts, and ditches and creating hazards that need immediate inspection.

Besides "where" and "when," the ministry must also consider "who" in planning its monitoring. The skills, equipment and history of a forest company can be very important in determining how much its work needs monitoring.

The way in which the ministry analyzes the risks facing its road network, and thus directs its monitoring efforts, is not well developed. There is little ministry-wide information on where risks are likely to be encountered under different conditions, and there is as yet no standard process to guide districts in planning their monitoring work. When and how often a road should be inspected are choices frequently left to the staff member doing the inspection. These choices are rarely documented, and could be at variance with management's priorities. Without documentation it is difficult to make sure the choices were correctly made.

Inspections

Most ministry road monitoring is done by having district staff visit roads intermittently to inspect the quality of the work done on them. Different staff carry out the inspection of road building and the inspection of road maintenance.

Inspecting of roads under construction is usually done by the district road specialist. Each district has at most one fulltime specialist, who often has no permanent staff to help him. Road specialists are usually the only staff with roads training in district offices. Their major source of advice and help is a small engineering group at each regional office.

We found that the ministry has difficulty in recruiting road specialists with adequate knowledge for the job. For example, more than a third of the districts in the province have roads of such complexity that the ministry wants the road specialists to be professional engineers. However, the ministry has been unable to recruit professional engineers to fill any of these positions.

Once a road is built, the district road specialist has little involvement in its monitoring. Inspection of road maintenance is done primarily by harvest field technicians. Technicians are one level below specialists in the district organizational structure.

Many harvest field technicians have little or no training and experience in what to look for when monitoring forest roads. The ministry is acting to correct this problem, however. It has commissioned the British Columbia Institute of Technology to develop a set of courses on forest roads for trainees and for staff wishing to upgrade their skills.

In late 1989, the ministry started to formalize part of its inspection process by internally circulating draft standards for how

often inspections should occur. However, the standards were not derived from a formal analysis of objectives, or of the risks that monitoring is to control. Instead, they reflect senior management's estimate of the most that can be done with current and expected resources.

The standards define minimum frequencies of inspection for road construction, but say nothing about maintenance or deactivation inspections. It is made clear in the standards that these are minimums only, and inspections should be more frequent when warranted.

How Often the Ministry Monitors

We found that the ministry inspects road construction and maintenance infrequently. Because the inspections were poorly documented, however, we were unable to calculate their precise frequency.

Road construction is inspected less often than the minimum proposed in the draft inspection standards. This is true even if we adjust for those districts that do not inspect major licensees' road construction at all, because they have chosen to audit these licensees periodically instead.

District staff said that some inspection of road maintenance is done informally as harvest technicians travel over roads en route to the active cutblocks which are their primary concern. Since these informal checks are poorly documented, it is very difficult to find out if and when a road was inspected. However, district staff confirmed that formal road maintenance inspections have a low priority, and are uncommon.

Main roads are generally built for long-term use, so they are rarely deactivated. We were unable to find enough documentation to conclude how often deactivation is inspected.

We believe that the current rate of monitoring is not sufficient to detect or prevent all material problems, and that increased monitoring effort would not be wasted. When ministry staff do inspect roads, they not uncommonly discover problems requiring correction. As well, other work carried out by the ministry—regional and headquarter audits of district work, special audits, observation reports from ministry staff—which incidentally gather information about the state of the road network, also shows that substandard road construction and maintenance are not uncommon.

Enforcement

When companies do not meet ministry forest road standards, the ministry has a range of tools to enforce compliance: suspension of licenses and permits; suspension of operations; use of deposits to pay for corrective work; and charging of penalties.

District officials told us these enforcement tools are generally adequate to deal with the problems they encounter, although some feel they lack precise tools to ensure that road surfaces are well maintained. In

theory, the license could be suspended if the road were not adequately maintained. Most officials think this is too severe a penalty, though, and are hesitant to apply it, believing a fine would be more appropriate.

Management Information and Quality Assurance

The nature of road monitoring demands a good management system. The work is decentralized and technical, and concerns a valuable resource. Decisions about when and how often monitoring should occur, which involve considerable discretion and judgment, are made by many different staff, who are often in lower levels in the organization. The assets being managed have very long lives, so continuity of record-keeping is essential.

Unfortunately, significant parts of such a management system are missing. We found that the ministry lacks an information system to keep track of its monitoring activity. Another important management tool, the quality assurance system, also has major weaknesses.

To enable management to judge whether its monitoring objectives are achieved, there must be a good system to collect necessary information. This would include what has to be monitored, what monitoring is actually being done, what the findings are, and what resources are used in the process. Most of this information either does not exist in the ministry or is not collected in a way that is of practical use for management.

Information on what has to be monitored—the road network itself—has not been organized and integrated in a systematic way. The ministry does not have an inventory of the roads that need monitoring. It has information only on the length of Forest Service roads. It does not know the length of operational roads, even though they are also part of the Crown forest. Forest companies do report to the ministry on roads built or deactivated during a year, but this information is not used by the ministry.

The ministry also lacks information on how much monitoring it does, and what this monitoring shows about conditions in the road network. We found little documentation of road inspections in ministry files. Technicians keep some information informally, but the frequency of staff turnover makes this of little value.

Permanent records of what monitoring the ministry does, and what that monitoring finds, are essential in a long-term activity like forestry. New forests can take up to a century or more to be ready to harvest. Main roads can be in use for half a century. Road-related problems may take several years to appear. A ministry study on slides in the Slocan area reported difficulty in finding out what road work had been carried out in the slide zone only seven years before the slide. It recommended that the ministry improve its file documentation "to reflect specifically what has been required of logging operators and what is carried out."

There is no provincial standard for how districts are to keep track of the monitoring of their roads. Districts vary greatly in how well they do this. Some have no system at all for summarizing monitoring information. Most district officials told us they depended on their staff to inform them of particular problems; otherwise they assumed monitoring was proceeding as it should. Similarly, regional and headquarters management were told about problems, but did not systematically collect information on monitoring and enforcement.

Finally, we found that the ministry does not have consistent methods for knowing how much staff time it uses, or should be using, in monitoring. Some districts and regions have done workload studies. While these contain some useful information, they lack consistent definitions and measurements, and some are incomplete. Also, they focus on the staff needed to carry out present monitoring activities, rather than deriving activities and staffing from an analysis of monitoring objectives. As a result, there is no reliable system for determining what staff resources each district needs to meet the ministry's objectives in monitoring efficiently.

Another important kind of management information is quality assurance—evidence that monitoring work has been carried out to acceptable standards. We found serious weaknesses in the ministry's system for gathering information on quality.

The quality of monitoring work done in the field is not checked consistently. At the district level, some supervisors scan their field technicians' inspection reports as a check that the work was properly done. When time permits, some supervisors accompany their technicians on an inspection, to review their work and give informal training where necessary.

The only higher-level review of how well districts carry out monitoring is through audits by regional and headquarters staff. These audits collect useful information, but are done infrequently, and monitoring is only a small part of what they examine.

Public Accountability

The ministry does not give the Legislative Assembly sufficient information to judge the ministry's monitoring efforts. It currently reports on the extent of the Forest Service road system only.

To provide adequate accountability, the ministry needs to report on the goals and results of its monitoring efforts, on the extent of the road system it is monitoring, and on the resources it used for monitoring. This is the same kind of information the ministry needs to manage its monitoring system. As we pointed out in the previous section, most of this information is unavailable: improvement in public accountability depends on improvement in management information within the ministry.

Ministry of Forests: Monitoring of Timber Harvesting

A review of how the Ministry of Forests monitors forest companies which harvest timber in Crown forests

We conducted this audit to assess whether the ministry's monitoring practices give it adequate assurance that forest companies' timber harvesting activities meet ministry requirements for protecting, managing, and conserving the forest resources of the Crown. In this report, monitoring means field visits conducted by ministry staff to ensure that licensee activities meet ministry requirements.

We carried out the audit between August and December 1990. Our examination was performed in accordance with the value-for-money auditing standards recommended by the Canadian Institute of Chartered Accountants, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

Overall Conclusion

We concluded that, overall, the ministry's field monitoring practices do not give it adequate assurance that forest companies' timber harvesting activities meet ministry requirements for protecting, managing, and conserving the forest resources of the Crown.

We found that the ministry has not clearly defined its objectives for monitoring, and has not established a system for focusing its monitoring resources on risks that most threaten those objectives or its forest management standards. We also found that the ministry does not provide public accountability information about the scope and effectiveness of its monitoring of timber harvesting.

In monitoring, it is important that both parties, the ministry staff and the forest companies, agree on what the ministry requires. We found that the ministry has done a good job of communicating its requirements to forest companies, and of ensuring that its staff use those requirements as a basis for monitoring.

However, we found that information on monitoring levels and effectiveness inside the ministry is deficient, and controls over the quality of field work are often poor. The quality, timing, and inspection

processes of the ministry's monitoring of forest companies' harvesting vary widely, especially in monitoring major licensees. The ministry has been more consistent in how often it monitors companies operating under the Small Business Forest Enterprise Program. This reflects the ministry's more direct involvement in forest management for the small business licensees.

To address some of its problems, the ministry has drafted standards for harvesting inspections, standards that are intended to deal primarily with issues of frequency and consistency. We believe, however, that in implementing new standards, the ministry should clarify what it wants to achieve through monitoring.

Timber Harvesting Methods

The Ministry of Forests allows forest companies to harvest timber from Crown forests, under a system of licenses, plans, and permits which set conditions intended to ensure that harvesting practices are acceptable to the ministry. Through cutting permits, it gives forest companies the right to harvest timber in designated areas referred to as cutblocks, and prescribes the types of harvesting methods the companies may use. It then monitors the activities of the forest companies.

The prescribed harvesting methods are adapted to deal with issues such as soil instability, steep slopes, or local weather patterns. For example, one of the more economical ways to move logs is to move them along the ground with a skidder. However, because skidder wheels and logs can damage soil in wet or sensitive areas, loggers might instead use cable systems to lift and carry the logs to the landings.

In setting conditions for harvesting in its plans and permits, the ministry seeks to encourage responsible and appropriate logging practices, which lead in turn to protecting the other values present in the forest, and preserving the ability of the forest to regenerate.

There are several types of threats associated with harvesting. One of the major threats is erosion of the forest soil, which effectively removes it from the productive forest base. Extra care must be taken to ensure that harvesting activities do not adversely affect streams (for instance, by hauling logs through them). Often, protecting a stream requires leaving a buffer strip of trees along the banks to keep banks stable and to filter runoff. Harvesting activities can also threaten recreational areas. Cutting permits often set special conditions to minimize this threat, such as requiring that cutblocks be designed to reduce their visibility.

The threats associated with harvesting are complex and have major implications for the future well-being of the Crown forests. The ministry recognizes this, and endeavors to minimize those threats through its planning and permit issuing processes. By monitoring, it also seeks to ensure that what

actually happens does not frustrate those plans. Because the Crown forests are so vast and ministry resources are finite, it is important that the ministry have a well-organized monitoring process.

Establishing Monitoring Objectives

As we have pointed out in our introduction to these monitoring audits, the ministry has to have clear objectives so it can design monitoring practices that will accomplish what is desired, and choose monitoring methods that use its people and resources to best advantage.

We found that the ministry does not have clear objectives for monitoring timber harvesting. This is a contributing factor to the inconsistency of the ministry's monitoring of forest companies' harvesting. It also means that the ministry has no ultimate benchmarks or measures of success against which to assess the efficiency or effectiveness of its monitoring activities.

In determining its objectives, the ministry should start by clarifying what its basic unit of monitoring is. The ministry could choose to get assurance about the Crown forests as a whole. Or, it could decide to get assurance about each Tree Farm Licence and Timber Supply Area, or each cutblock. It could also choose to organize its monitoring by forest company, for instance, rather than by geographic area.

Decisions about the basic monitoring unit would drive the choices the ministry makes for monitoring. For example, if it treated cutblocks as the basic unit of monitoring, it might want to see all cutblocks. However, if it treated Tree Farm Licences as the basic unit, it might simply want to see a sample of cutblocks.

The ministry has to choose whether it wants its monitoring to prevent harvesting-related damage from happening, or to detect any such damage when it has happened. For example, if there is a period of unusually heavy rainfall, the ministry could immediately check to see if soil in wet areas is being degraded by heavy equipment, and close down offending operators. In a detective mode, it would wait for the next scheduled inspection and impose sanctions if a problem were found.

Related to the detection or prevention question, the ministry needs to decide whether to monitor harvesting processes or end results. For example, the ministry could choose to assess the harvesting activities of forest companies as they are being conducted, to determine if they are acceptable, or to assess the effects or outcomes of harvesting. This has implications for how often and when inspections should occur and what types of tests need to be carried out.

There is also the question of how much monitoring is enough. Does the ministry want absolute assurance that it has caught all significant harvesting infractions, or should it choose to accept some degree of risk? If the ministry were to use sampling techniques instead of trying to see every cutblock, it could achieve significant savings. But are the savings worth the risk?

Another issue is the determination of the relative importance of different monitoring findings. Some harvesting mistakes have bigger consequences than others. Does the ministry want to devote its resources to the bigger problems, or does it want to ensure that even minor problems are picked up by monitoring? Decisions about this affect what monitoring will achieve.

We found that the ministry has not clearly answered these questions. It has not developed well-defined objectives for monitoring, or fully examined alternative strategies. Thus, it cannot tell whether its monitoring is achieving what it should be, nor can it know for sure that its resources are being used efficiently. Also, without objectives, variations in local practices can arise across the province.

Specifying What Licensees Should Do

To monitor properly, staff need to know what harvesting standards the ministry has set, and forest companies need to know what standards the ministry is using to judge their performance. We found that the ministry is doing a good job of communicating its harvesting standards to its monitoring staff and to licensees. The ministry reviews forest companies' plans, and sets conditions in cut permits before allowing harvesting to start. The same plans and permits are used by ministry staff in monitoring the performance of the forest companies. In general, we found that both the forest companies and ministry staff are working from a common understanding of what conditions the ministry has set.

Choosing How To Monitor

The ministry's approach to monitoring is based primarily on inspections by field technicians. Each field technician is assigned responsibility for specific cutblocks, and is expected to visit the cutblocks as frequently as circumstances allow. This raises the question of how different cutblocks are inspected. In particular the ministry should deploy and direct field technicians in a way that focuses on higher risk harvesting activities, and give them adequate direction on what procedures to follow in performing inspections.

We found that the ministry does not have a systematic process for evaluating the risks to be monitored for. Also, it does not have established monitoring procedures, and findings from monitoring activities are often poorly documented.

The risks to the forest from harvesting fall into two major categories. First, there is the risk associated with the physical characteristics of each cutblock. For example, cutblocks with creeks or steep slopes are more vulnerable to soil damage than are cutblocks with flat, dry ground. They would therefore need to be seen more often. Second, there are different levels of risk for different forest companies. The ministry needs to identify the "high risk" forest companies, and review their activities more frequently and comprehensively than it does for other companies.

We found that risk analysis in the ministry is informal, and is carried out only at the local level. District managers implicitly recognize risk in some of the decisions they make about priorities. For example, the closer monitoring of small business recognizes risk, although it also reflects a more interventionist approach to small operators who may not have the same level of expertise at their disposal as large forest companies. The ministry does not address risk systematically, and does not recognize the various risk levels presented by individual logging operators or the blocks they work on. For example, there are some major licensee operations that require more attention than others.

We found that district staff are familiar with most of the companies operating in their areas, and generally know which cutblocks are more sensitive than others. However, individuals sometimes hold varying opinions about the level of risk presented by individual cutblocks or forest companies. Staff turnover and poor documentation of inspections also often result in a loss of continuity of information.

As well, local knowledge of the cutblocks and the forest companies does not, in many cases, automatically mean that higher risk cutblocks are monitored more closely. Nevertheless, there are exceptions. For example, some districts monitor a cutblock more frequently if it is near domestic water supplies or in a scenic area. Also, companies operating under the small business program receive closer attention than do major licensees in all districts, although there is no recognition that there are differences between the track records of different small businesses, which

should influence frequency of inspection.

In general, responses to risk vary from district to district, and the ministry does not take a consistent risk-oriented approach to monitoring. It has not identified and ranked which threats to the forest are most important to monitor for. Nor does it systematically gather data on harvesting activities that depart from ministry standards, such as where, when, and how these incidents occur and who is responsible. We believe that proper risk analysis could help the ministry direct monitoring staff and resources to where threats to the forest are present.

The ministry has not yet specified province-wide procedures for field technicians to follow when they inspect a cutblock. This contributes to the wide variations in ministry inspection practices across the province. Some districts have partial procedures for what to monitor and record, and new provincial monitoring standards being drafted include some material on procedures. While there are bound to be standard issues that different ministry field staff look for in inspections, variations arise when it is left to the individual field technicians to decide.

Thus, one field technician could decide that a quick overview of a cutblock is enough; another could decide to walk the entire cutblock and look at everything closely. This lack of inspection procedures also means that field technicians could have different priorities from those of management. As a result, the quality of the work done by field technicians can range from being extremely thorough and competent, to less than satisfactory. We believe that while individual judgment in the field is important, the ministry should ensure that good guidelines are set within which field staff can work.

The way field technicians document their findings is another weakness in the present system. We found the documentation of inspections to be inconsistent, not only from district to district, but even from worker to worker. Many reports contain subjective statements like "logging O.K." or "poor roads," without a careful analysis of what that means. We think the ministry needs standards for ensuring that performance of companies is objectively and consistently documented, for analyzing risk, for assisting in decisions about giving cutting rights, and for supporting decisions about penalties. Documentation is also important for long-term forest management.

Overall, the field technicians are the ministry's main eyes in the forest. Although they make decisions which may have long-term implications for the Crown forests, they face increasing complexities in their work, and receive limited feedback and supervision. We think the ministry needs to evaluate the changing context of their job, the demands placed on them, and how they are organized and supervised.

Frequency of Ministry Monitoring

In December 1989, the ministry drafted new monitoring

FIGURE 2.4
Proposed Ministry Monitoring Standards

In December 1989, the ministry drafted standards for frequency and timing of timber harvesting inspections. These standards are currently under review. They propose three types of inspection: planning, progress, and final.

Planning Inspection

Planning inspections are to be conducted on every cutblock before harvesting, to ensure that the logging plans are appropriate and that the company is familiar with any special terms and conditions.

Progress Inspection

The standard proposes one inspection per harvesting season for major forest companies and one inspection per month for small businesses. It also requires more inspections if necessary. Progress inspections should ensure that ministry requirements are met and environmental concerns are minimized.

Final Inspection

The standard requires a final inspection on every cutblock, ideally before the logging company removes its equipment. Final inspections are summary in nature; they should ensure that all conditions have been met and that the site is ready for restocking. They should also ensure that roads have been properly deactivated, to minimize the risk of flooding, slides, and erosion.

standards which address primarily how frequently cutblocks should be inspected by field technicians (Figure 2.4). The standards assume that the basic unit of inspection should be the cutblock, and that sampling is not appropriate. They include a mix of preventive monitoring of harvesting processes, and an inspection of end results.

At the time of our audit, the ministry was still examining the implications of the monitoring standards for resources and staffing. Meanwhile, in the absence of common objectives and standards across the province, district offices differ widely in how frequently they monitor timber harvesting.

We compared the standards to present patterns of monitoring activity in the ministry. Caution should be used in the comparison, as the standards are a minimum: they would only be adequate for low-risk sites harvested by reliable companies. We think the "more frequent as necessary" rule proposed by the draft standards is important, because problems occur on many cutblocks.

The proposed standards require all major licensee cutblocks to be inspected at the planning stage, before cutting permits are issued. In our audit, we reviewed how often the ministry conducts pre-harvest inspections on cutblocks. The nature of the pre-harvest inspections we

reviewed may not necessarily be the same as the planning inspections defined in the new standard, so comparison to the standard requirement is difficult.

In general, we found an extremely wide variance in how often major licensee cutblocks are subjected to a pre-harvest inspection. Some districts had stopped pre-harvest inspections of major licensees during the period we reviewed, to deal with other priorities. Other districts seemed to be achieving rates of inspection over 50%. Pre-harvest inspections of small business harvesting operations are much more consistent; almost all are seen.

The proposed standards require at least one inspection per season for major licensees, and one per month for small business licensees. Again, we found that districts vary widely in their coverage. Some conduct as many as three or four such inspections per season for some cutblocks. Others have not conducted any inspections in recent months, particularly on Tree Farm Licence cutblocks, which some districts had intended to review on a sampling basis. For small business licensees, frequency is more consistent across the province, and many districts inspect small business cutblocks once a month.

The proposed standards call for final inspections on all cutblocks, preferably before the forest company leaves the site. We estimate that the ministry conducts final inspections on about half of major licensee cutblocks. The frequency and timing of these inspections vary widely among districts, and some final inspections are as much as a year or more overdue. However, for small business licensees, final inspections are done almost universally. This reflects the fact that small businesses have significant performance deposits with the ministry, which cannot be released until a final inspection is completed.

Overall, we found that the likelihood of an inspection occurring on any cutblock varied according to the availability of staff and the type of license held by the forest company, rather than according to the objectives of monitoring or to the risk level. Some districts vary significantly from our estimates, depending on local workloads, resources, and priorities. However, as can be seen above, there was one consistent pattern: districts give priority to inspections of small business program companies, which harvest about 13% of the timber. Coverage also varies with the time of year: fire season takes staff away from the harvest monitoring program, and monitoring levels drop in the fall when staff take time off in compensation for overtime in August and September for fire duties.

Enforcement

Legislation appears to give the ministry adequate powers to deal with most harvesting issues. The *Forest Act* entitles the ministry to shut down a cutblock after 14 days' notice, and gives it the power to shut down a cutblock immediately if there is an imminent threat of damage to the environment. There are stiff penalties for trespass, and license and planning documents give the ministry power to demand that licensees repair damage caused by poor harvesting practices.

However, shutting down operations or issuing warnings can only succeed if the ministry can identify major problems as they happen. This is often not the case, particularly for major licensee forest companies. As we noted earlier, in some districts final inspections are delayed until well after logging has finished, making it difficult to enforce cleanup or rehabilitation. We found some variations in local practices with regard to use of remedies. We believe the ministry should review how district offices approach enforcement, to ensure that there are consistent and effective processes.

Management Information and Quality Assurance

The ministry does not systematically collect information on the frequency and timeliness of monitoring in the districts. Also, quality controls in the ministry do not give management the assurance it needs that the work of field technicians is of consistently high quality.

Ministry management lacks adequate accountability information to assure themselves that monitoring of harvesting is consistent, effective, and efficient. The ministry does not track the frequency of inspections in different districts, nor the productivity of field monitoring staff. The effectiveness of the monitoring that does take place is not evaluated. Ministry staff believe that more frequent monitoring would lead to better performance by forest companies, but the ministry does not gather solid evidence about the effectiveness of its monitoring. At the time of our audit, however, the ministry was developing an information system for harvesting that should address some of these concerns.

Also, quality control over field technicians' inspections is poor. In most districts, supervisors rarely accompany their field technicians into the forest. Typically they travel only once or twice a year with each technician. Also, professional staff at district offices rarely go to the forest with the field technicians. Nearly all staff attribute the lack of forest visits by supervisors and professionals to the burden of responsibilities which keep them at the office, such as reviews of licensee plans. They feel that they should be in the forest far more often, to check the quality of technicians' work and to provide training and feedback.

The ministry's main quality assurance tool is audits of district offices by teams from regional offices. One objective of these audits is to ensure that local monitoring practices are efficient, effective, and in accordance with ministry policy. However, the actual audit coverage is sparse at best, although the technical experience of the regional office auditors partially compensates for this. It is a strength of these audits that the auditors do not confine themselves to looking at district paperwork. Rather, they visit cutblocks to review the decisions made by the field staff. However, we concluded that, while present regional auditing practices have some good features, their coverage is too thin to give management sufficient assurance about the effectiveness and efficiency of monitoring activities.

Public Accountability

The ministry does not report to the Legislative Assembly on the scope, efficiency, and effectiveness of its monitoring of timber harvesting. The lack of public reporting reflects the scarcity of information inside the ministry. We believe that the ministry should report fully on its monitoring, as part of its obligation to report on how it manages, protects and conserves the forest.

Ministry of Forests: Monitoring of Major Licensees' Silviculture Activities

A review of how the Ministry of Forests ensures that forest companies holding major licenses meet their reforestation responsibilities

Audit Purpose and Scope

We conducted this audit to assess whether the ministry's monitoring practices give it adequate assurance that forest companies meet their obligations to reforest the areas they harvest under major licenses.

We focused on the ministry's monitoring of reforestation of areas harvested since October 1, 1987 by major licensees holding Tree Farm Licences and Forest Licences. The legislation with respect to these licenses was changed at the end of 1987. We did not review the ministry's processes for approving licensee plans for reforestation treatments.

We carried out the audit between August and November 1990. Our examination was performed in accordance with value-for-money auditing standards recommended by the Canadian Institute of Chartered Accountants, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

Overall Conclusion

We concluded that the ministry's monitoring practices do not give adequate assurance that major licensees are meeting their reforestation responsibilities. Overall objectives for monitoring are not clearly defined. The policies and procedures regarding frequency of field visits and follow-up of problems are not based on an appropriate evaluation of the potential losses should licensees not comply with ministry expectations. Ministry management does not have an information system to analyze the results of its monitoring and to influence decision making.

The ministry has set and communicated performance standards for licensee reforestation activities that form a reasonable basis for ministry monitoring. It is also aware of deficiencies in its policies and procedures and, during the course of our review, was working on revisions.

The Ministry's Role in Monitoring Silviculture

Silviculture is the term used for activities that are concerned with renewing and tending forest stands. "Basic" silviculture includes site preparation, regeneration through natural seeding or planting, and suppression of competing vegetation, pests, and disease. When the seedlings are able to continue growing without being seriously impeded by competing plants or trees, they are deemed to be "free growing." From this point, "incremental" silviculture activities begin (Figure 2.5). These include ways of optimizing timber production such as spacing, pruning, thinning, and fertilizing.

The ministry, in its draft *Five-Year Strategic Plan for the Silviculture Program 1991 - 1996*, describes basic silviculture as follows:

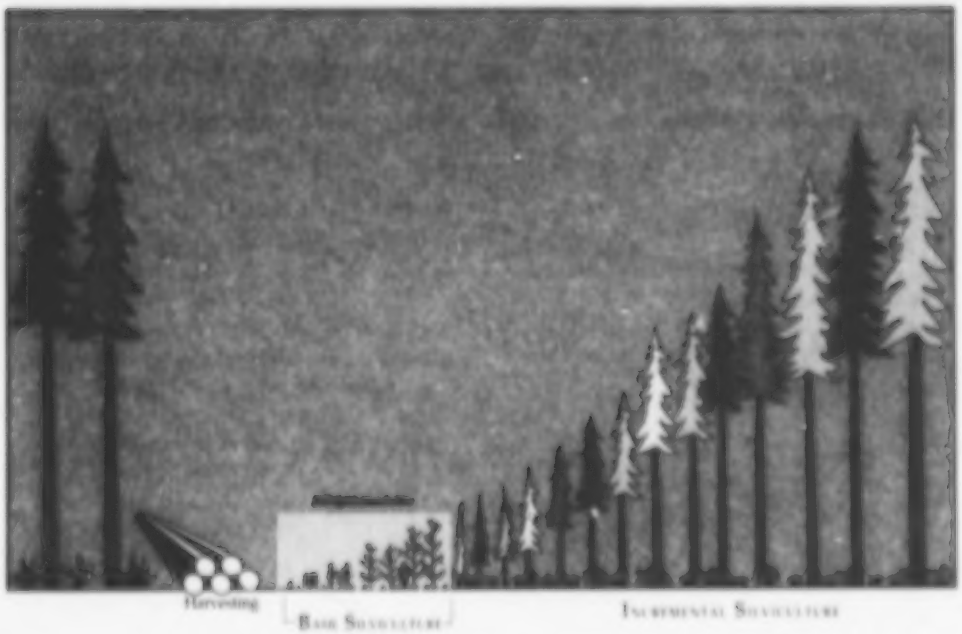
> Basic Silviculture is the obligation of those who harvest to ensure reforestation. Harvested areas or areas ravaged by fire or pests must be reforested and nurtured until they have reached the stage where the trees can grow freely with minimal risk.
>
> Without this assurance, the ability of the land to sustain the current level of harvest would soon be impaired, causing a reduction in the harvest rate. This reduction would threaten the stability and long term economic outlook of the forest industry, with disastrous social and economic consequences for the communities dependent on the forest resource and the Provincial economy.

Since the *Forest Act* was amended in October 1987, the role of the ministry in monitoring licensee reforestation activities has changed significantly. Before the change, the ministry was responsible for managing basic silviculture on all areas that were disturbed through harvesting or through wildfire, insects, or disease. The ministry approved, monitored, and paid for silviculture treatments that were carried out by licensees.

The Act now requires that licensees manage harvested areas, in accordance with site-specific plans and performance standards approved by the ministry before harvest, until they are free growing. This has led to the ministry switching from its traditional role of monitoring specific activities to that of auditing a licensee's overall compliance with its legislated obligations. The ministry had to develop a new approach for reviewing and approving licensees' plans, and for monitoring their efforts in the field.

During the two years following legislative changes, regulations were implemented detailing site-specific planning requirements with which licensees must comply to obtain ministry approval for proposed post-harvest silviculture treatments. In addition, the ministry developed and implemented policies and procedures for auditing licensees' performance of their basic silviculture obligations.

THE SILVICULTURE CYCLE



BASIC SILVICULTURE

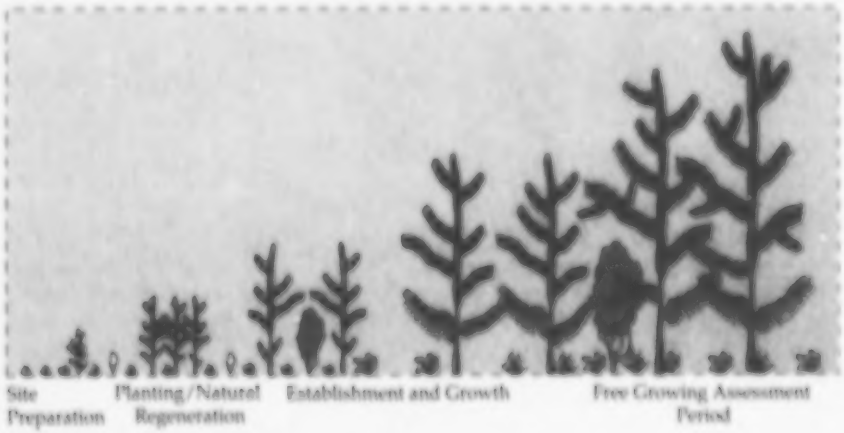


FIGURE 2.5
The Silviculture Cycle

Following a review of the results of initial audits, the ministry decided to draft new policies and procedures. This process was under way when we began our review in August 1990, and was not complete by the end of our review period. (The ministry has since informed the Auditor General that revised policies and procedures for monitoring were issued to the field in February 1991.)

The nature of both the forest and the forest license system provides some risk that forest companies may not be motivated to comply with their reforestation responsibilities. Although basic silviculture is important to the long-term viability of forest companies, it does not provide an immediate return. It may be 60 to over 100 years before the results, a well-stocked forest stand, can again be harvested. Also, under the current forest license system, there is no guarantee that a forest company will have the right to harvest the same cutblocks it reforests.

A major licensee's responsibility for reforestation of a specific site to the free growing stage may extend over a period of 10 years or more. During that time, prompt intervention is needed to resolve any problems that may arise before they lead to higher rehabilitation costs or decreased productivity from the forest resource. Effective monitoring is therefore essential if the ministry wants to ensure that appropriate reforestation activities are carried out.

Establishing Monitoring Objectives

We found that the ministry has not clearly defined the objectives for its monitoring activities. Without clear objectives, it is less likely that their practices will ensure that major licensees are meeting their reforestation obligations.

Ministry staff were often unsure whether their audits were intended to give a representative "snapshot" of overall licensee performance or to focus on "policing" areas believed to be deficient. Some districts randomly selected the cutblocks they would monitor. If sufficient coverage was obtained, the results could then be used to form a representative picture of licensee performance in general. Other districts informally used licensees' historical performance to select the sites they would monitor, looking for suspected problems.

It was not always clear whether areas to be monitored should be determined based on the number of a licensee's cutblocks or on the number of hectares harvested. The latter basis could result in a bias toward selecting larger cutblocks for audit, with a potential for the majority of audit work being done on very few cutblocks.

Because monitoring objectives have not been articulated clearly, field staff are uncertain about whether the purpose of the auditing is to determine if the licensee has complied with the prescribed silviculture treatments, or if the crop is likely to reach free growing status. Inspections done on areas harvested before October 1987 focused more on the compliance of specific silviculture activities with a set of prescribed standards. Some districts continue to focus primarily on whether licensees have conformed with treatments proposed in their approved plans. Others are now focusing on the likelihood of free growing status being achieved even though prescribed treatments are not followed. In some cases the ministry has taken no action where treatments differed from those prescribed, because staff could not determine with certainty that the treatments would not lead to the desired result—free growing status—within the specified time.

It is also unclear what level of assurance the ministry wants to achieve from its monitoring of major licensees. By this we mean, how sure does the ministry want to be that its field visits will find significant problems, if they exist? Given that 100% assurance would be impractical to obtain, some degree of risk has to be accepted. The ministry has not yet determined what degree that is.

The process for monitoring and controlling licensee performance of basic silviculture treatments has changed significantly since late 1987. The ministry has indicated that, for this reason, the prior performance of a licensee cannot be used to predict accurately how the licensee will perform now. Although definitive risk factors for licensee current performance have yet to be developed, we think that the ministry should still be able to estimate the likelihood of possible problems occurring, and the consequences if they go uncorrected. The potential losses if licensee obligations are not enforced should then be evaluated against the costs of various levels of monitoring. Following this type of risk analysis, the ministry should select a level of assurance that can be used to drive monitoring decisions, such as the frequency of visits to review licensee reforestation efforts.

Specifying What Licensees Should Do

Subsequent to the change in legislation three years ago, the ministry has set standards to be used in prescribing silviculture treatments. Before harvesting is approved, licensees must present plans containing proposed treatments that conform to standards and are acceptable to the ministry. They include, for example, the number of trees to be established per hectare and the maximum length of time before the free growing stage must be achieved.

We found that these performance standards have been well communicated to both ministry staff and licensees. They have been useful in rating licensee conformance with approved plans, except in a few areas currently under review (for example, defining acceptable levels of site disturbance). We therefore consider them to form a reasonable basis on which the ministry can monitor licensee performance.

Choosing How to Monitor

We found that field staff have both written guidelines and the experience needed to perform tests of specific activities. However, when it comes to making decisions as to which particular cutblocks should be audited, and following up problems encountered, we think staff need more specific direction.

Before changes to legislation in 1987, the ministry had undertaken monitoring inspections that focused on tests of silviculture activities, primarily planting. The inspections were done at cutblock sites usually close to the time that the activities were being performed. The audits now carried out pursuant to the *Ministry of Forests Act* usually take place some time after the activity is performed, and require a broader perspective. Tests are still performed, but staff now have to make assessments about long-term outcomes.

Audits of licensee reforestation efforts involve a variety of procedures: reviews of documents, such as plans for silviculture treatments; visits to cutblocks to test actual silviculture activities, such as numbers and species of seedlings growing; and judgments about results, such as achievement of free growing status.

The changes in legislation require major licensees, prior to harvesting, to submit to the ministry for approval, a plan that states the goals to be achieved for each site, and that prescribes the post-harvest silvicultural treatments to be implemented to achieve the stated goals. The plan, known as a "Pre-Harvest Silviculture Prescription" (PHSP), must be signed and sealed by a Registered Professional Forester on behalf of the licensee. Upon its approval by the ministry, the PHSP becomes one of the tools used by the ministry in auditing licensee activities. Because judging the suitability and the likelihood of long-term success of treatments prescribed in the PHSP requires professional expertise, the ministry's audits are performed or supervised by registered professional foresters.

At present, the minimum target set for the number of audits to be performed by each forest district is unclear. Ministry policy dictates that 5% of areas declared free growing should be audited. Since it is likely to be a few more years before any areas harvested since 1987 will reach free growing, interim directives have been issued. For the 1988/89 fiscal year, the minimum target for audits in each district was set at two licensees (one or two cutblocks each). This was out of about 100 cutblocks being reforested in each district at that time. For the period from April 1989 to date, every major licensee was to be audited every year (a district has, on average, five licensees). The number of cutblocks to be audited for each licensee was not specified. Many of the field staff we interviewed were unaware of the change in minimum targets.

Minimum targets have not been based on clear objectives, or on a systematic assessment of the cost-benefit associated with monitoring licensee reforestation efforts. Instead, they are based to a large extent on estimates of the number of audits that available staff resources are able to conduct. Given the size and value of the province's forest base, and the long-term perspective needed to ensure its effective reforestation, we believe the ministry should have a more rigorous approach for establishing its audit coverage.

We found that existing standards and procedures are adequate for directing specific tests of whether licensees have conformed with PHSP requirements. The ministry has manuals which contain information needed to assess whether a particular activity has been performed to an acceptable level on any cutblock selected for audit.

Staff, however, need better guidance for assessing risks when making decisions about which individual cutblocks to choose for audit. At present, inconsistent consideration is given to weighting selections for higher risk species or ecosystems, where problems are more likely to be found. There is also no formal guidance on how much attention should be given to each of the key phases of basic silviculture. Finally, the monitoring procedures do not specify what constitutes a significant deficiency in licensee performance, requiring follow-up action.

Since the ministry's switch to an auditing mode for monitoring silviculture, audits have focused on testing the suitability of prescribed treatments, in particular, they have focused on site preparation procedures. This emphasis has been appropriate, given that site preparation constitutes the major activity undertaken, and therefore available for audit, on sites harvested since late 1987. Over the next year or two, however, many cutblocks will reach the end of the phase where specified stocking levels of seedlings should be established. As the reforestation cycle progresses, staff will need guidelines to assist them in deciding which cutblocks to audit from among those that have reached the various stages of reforestation.

The ministry is in the process of drawing up new policies and procedures. The preliminary drafts we reviewed address, to some extent,

most of the points we have raised, although monitoring decisions are not yet based on in-depth assessments of related risks. Prompt implementation of new procedures is needed, along with ongoing analysis of the benefits and risks associated with focusing on particular ecosystems, tree species, and licensees.

Frequency of Ministry Monitoring

We found that the extent of actual monitoring varied between forest districts. Overall, only 100-200 cutblocks were audited annually out of the more than 10,000 that were being reforested following the harvesting that has taken place since 1987. The districts also used inconsistent methods to select cutblocks for audit, primarily because the objectives of performing the audits were unclear.

A silviculture audit can require up to one week of a professional forester's time. In practice, some districts did the minimum number of audits, some did significantly more (usually through contracted services), and some did not do any. This variation was due largely to differences in district and regional perceptions of the need to audit major licensee performance compared to performing other silviculture program functions.

In forest districts where required levels of auditing were not performed, the reason given was that monitoring of major licensees gets a lower priority than other silviculture programs when it comes to allocating resources. These districts often focused their monitoring resources on the reforestation being done under the Small Business Forest Enterprise Program. Although the small business program represents only a small percentage of the reforestation taking place in the province, ministry staff are directly responsible for the ongoing supervision of contractors who carry out silviculture activities.

In the case of major licensees, silviculture contractors are supervised by licensee staff. For this reason, some district and regional staff believe that less monitoring is needed for major licensees than for ministry contractors who do not have another level of supervision. The ministry does not, however, systematically review whether the number of staff allocated to managing the small business program, relative to the number monitoring major licensees, is justified.

In the districts that did perform audits, we found that district staff often did not systematically review potential cutblocks to achieve optimal coverage for monitoring licensees. For example, not enough consideration was given to choosing cutblocks based on the risks associated with particular ecosystems or the species to be regenerated. We also found that district staff did not usually examine additional cutblocks when deficiencies were found, to determine the total extent of the problem for a particular licensee.

The ministry has recently set up a computerized information system to record silviculture activities as reported by major licensees. This system, if used appropriately, could help districts select sites for audit. If

licensees submit accurate information about their progress on each cutblock at every key phase of silviculture, ministry staff will have a better basis for making decisions about when and where to focus attention. However, when making these decisions, consideration will also have to be given to the risks associated with particular phases, cutblocks, or licensees, based on the best available estimates of potential problems.

Enforcement

We found that the ministry often did not take follow-up action when prescribed treatments were not adhered to. When alternative treatments to those approved in the PHSP were performed, the likelihood of seedlings attaining free growing status was assessed. If they were deemed likely to become free growing, the treatments were accepted. If deemed unlikely, however, the degree of uncertainty about the likelihood of attaining free growing status determined the course of action followed by ministry staff. In some cases, judgments about the inappropriateness of a particular treatment can be made with little doubt. Under these circumstances, ministry staff usually require the licensee to take corrective action. In other cases, however, judgment is uncertain. In these instances, some ministry staff have been deferring corrective action until failure to achieve free growing status can be determined with greater certainty. This could mean waiting for several years before taking corrective action.

The ministry has legislated penalties it can impose if it decides that a licensee is not performing appropriate treatments to achieve a free growing stand of trees on a particular cutblock. Ministry contractors or staff can perform the required treatment and the licensee can be charged twice the costs. The license can also be suspended in whole or in part. In addition, if the stand does not achieve a free growing status within the prescribed time, the licensee's allowable annual timber cut can be reduced by 5% of the volume taken from the cutblock in question. Charges can also be laid under the *Offence Act* if licensees fo not meet legislated obligations.

Tests sometimes yield results that are unclear about the likelihood of achieving free growing status. For example, when soil is found to be moderately compacted by harvesting equipment, staff have to decide whether seedling growth will be negatively affected. If staff choose to defer difficult decisions such as these for 10 or more years before making a final decision as to whether free growing status can be or has been obtained, there is a danger that timber production could suffer.

If many of a company's areas fail to reach free growing status, rehabilitation costs could be so high that the licensee might not be able to pay for them. In certain cases, it may not even be possible to rehabilitate the cutblocks in question. Some areas may simply be progressing to a free growing stage, but a few years behind schedule. In other cases, free growing may be achieved, but with fewer trees than required by ministry standards. Corrective treatments and double billing at this stage would not likely make up for the lost time or volume.

Clearly, field staff require guidance for the actions they should take if the likelihood of reaching free growing status within a specified time cannot be precisely determined. Providing guidelines would allow corrective action to be taken sooner in cases where the outcome is uncertain, thus reducing the possibility that valuable time and timber volume could be lost.

The ministry's enforcement practices do not include systematic tracking of follow-up actions. As a result, senior management may not learn of significant trends or information pertinent to a particular licensee in a timely way. Because the information is not available, a license due to expire could be routinely replaced even though the licensee had defaulted on significant silviculture obligations.

To improve the effectiveness of its monitoring and to help maintain credibility with industry and the public, we think the ministry should set up a system that would allow it to follow up audit findings quickly and effectively.

Management Information and Quality Assurance

We found that the ministry lacks a management information system to help it assess whether its monitoring of silviculture activities is efficient or effective. We also found that there is little quality assurance for audit work done in the field.

Without an information system in place, management cannot readily compare district performance to target levels for frequency of monitoring. This has contributed to field staff not being held accountable for decisions they make about audit coverage. Having a management information system would allow ministry staff to analyze the types of problems encountered in its audits and to use this information in planning future audits and reevaluating standards. As well, problems could be systematically tracked to ensure that corrective action is taken.

We also looked at how the ministry applies quality assurance controls. Audits of major licensees are performed at the district level, either by ministry staff or by contractors who are Registered Professional Foresters. Regional and head office silviculture staff are available for consultation with those performing the audits. Staff have appropriate backgrounds to do the job, and the ministry provides them with training courses on what to look for when reviewing treatments approved in PHSP documents.

However, the ministry is not consistently reviewing the work done by foresters performing the audits. Summary information from audit reports is passed on to both the regional and head office levels, but staff receiving these reports do not routinely look at the quality of work performed. Regional staff have the option of performing audits on district performance, but we found that reviews done to date were infrequent and did not focus on the monitoring of major licensees by district staff.

Therefore, although the professionals who audit licensee performance are qualified, other work pressures on ministry staff carrying out or reviewing audit work could deter them from meeting performance standards. In these cases, the audit reporting process is not likely to discover weaknesses or errors. We think that at least one level of review, by staff with silviculture experience at district, regional, or headquarters level, is needed to ensure that ministry objectives for audits are being achieved.

Public Accountability

The ministry provides relatively detailed information on the province's overall silviculture program in its annual report. It also discloses information about the monitoring of silviculture performance of major licensees. However, further detail is needed to make the ministry's reporting more meaningful.

The ministry provides a table in its annual report which lists licensees audited in each region and the number of hectares examined. For each licensee, the number of hectares deemed likely to reach free growing status is also shown.

To make this information more useful to the legislature and the public, we think the ministry should include the total number of hectares being reforested by the licensee and thus subject to audit. This would assist the reader in determining what percentage of the licensees' reforestation efforts had been audited. If the total number of licensees and cutblocks eligible for audit were also disclosed, it would then be possible to assess the ministry's level of monitoring coverage. In addition, there may be benefits to showing the stages of silviculture that have been reached for areas audited.

We also think the report should clearly state what the ministry is trying to achieve, in terms of its objectives and performance targets for monitoring.

Response of the Ministry of Forests

The Ministry of Forests welcomes the Auditor General's Report on the appraisal of the Ministry's field monitoring of licensee performance.

The Auditor General chose to audit one activity from a continuum of activities which together are designed to achieve the mandate assigned in the Ministry of Forests Act. The Ministry has a broad mandate to manage the Crown forest resources of British Columbia. These resources impact significantly on the environmental, economic and social well-being of the Province.

The Ministry generally agrees with the Report's conclusions, but with some significant exceptions. Before commenting specifically on each section of the Report, it is essential to place the findings and conclusions in the context of the Ministry's operations overall. For a complete understanding of the issues involved, the following elaboration is provided on Ministry planning activities, human resource constraints and monitoring objectives.

Ministry Planning Activities

The Report briefly recognizes the activities performed by the Ministry in ensuring licensee performance as falling into two phases, planning and implementation. Field monitoring is part of the implementation phase and occurs at the end of an extensive but necessary process that starts with planning. (Refer to the diagram of the Harvesting Cycle Figure No. 2.1 in the Auditor General's Introduction Section).

The Auditor General chose to limit the audit to field monitoring rather than examine the entire monitoring processes of the Ministry. The Ministry has some difficulty with the assessment of field monitoring in isolation, rather than in the broader context. Had the audit included the entire monitoring process, the Ministry is confident that the results would have been significantly more positive.

Field monitoring is accepted by the Ministry as an important element in ensuring that licensees perform their obligations. However, after assessing the relative importance of all of the monitoring activities, the Ministry concluded that careful monitoring of the planning phase is critical. This first phase, which precedes actual road building, harvesting and silviculture, has the largest impact on the management of the forest resource. Accordingly, the Ministry has allocated its scarce resources to give priority to the planning phase.

Human Resources

As noted in the Report, the human resources available to meet the Ministry's mandate have been substantially reduced—almost 40%—from the levels of ten years ago. During this same period new Ministry programs have been added, public awareness and expectations have grown, and management of the forest resources has become much more complex. As a result, the Ministry has had to re-evaluate how it should best allocate its limited human resources to minimize the overall risks associated with the management of the Province's forest resource.

Monitoring Objectives

The Report overstates the need for specific monitoring objectives to be established. The Ministry's overall monitoring objective is clear i.e. to ensure that licensees comply with established Ministry performance standards and the obligations specified in the licence agreement. Field monitoring practices are part of the process of achieving this objective.

The Report found that the Ministry's field monitoring practices are not based on an adequate assessment of risk. The Ministry agrees that there is no formalized process for assessing risk, but contends that a risk management approach is inherently applied when its performance standards are developed. The Report found these standards to be adequate.

The Ministry acknowledges that its monitoring processes can be more formalized. However, the potential impact that such formalized statements could have on the effectiveness of field monitoring may be overstated in the report. Major improvements in field monitoring can only come from devoting additional staff to it.

The lack of formalized field monitoring objectives does not mean that current monitoring practices are disorganized or that Ministry program objectives are threatened. The Ministry is of the opinion that local management knowledge, combined with professional expertise and discretion, together with appropriate direction by headquarters is the most logical approach with which to address most field monitoring issues. Decentralized decision-making is consistent with the Ministry's organization and mandate, and is in accordance with Government's overall policy.

Specific Comments On Each Report

Roads

The Ministry disagrees with the Report's statement "that substandard road construction and maintenance are not uncommon."

In 1990, the Ministry Headquarters' Engineering Section audited ten different licensee-built roads in five districts and found that, on balance, licensees' road construction and maintenance were acceptable. It was also concluded that the quality of road construction is consistent with plans submitted by licensees.

The Ministry takes issue with the statement that "Information on what has to be monitored—the road network itself—has not been organized and integrated in a systematic way. The ministry does not have an inventory of the roads that need monitoring".

The above information is contained in cutting and road permit applications for minor roads and five-year development plans for major roads. To develop, implement and maintain a separate information and inventory system would require a re-deployment of present scarce human resources. This is not a practical or a cost-effective use of these resources.

The Report acknowledges, although not in the overall conclusion, that the Ministry has limited resources in each district and has had difficulty in recruiting skilled road specialists. The Report also notes that "more than a third of the districts in the province have roads of such complexity that the ministry wants the road specialists to be professional engineers.

However, the ministry has been unable to recruit professional engineers to fill any of these positions."

The Ministry has already taken significant initiatives to further improve its performance. Prior to the audit commencing, the following initiatives were underway and are expected to be implemented soon:

- *uniform province-wide road standards,*
- *revised and updated Engineering Manual which will include procedures on review, inspection and monitoring of roads and bridges, and*
- *comprehensive engineering training program.*

In addition, reporting procedures and remedial measures for landslides, sedimentation and siltation are being developed.

Harvesting

As outlined earlier, the importance of placing field monitoring in its proper context needs to be emphasized. A brief description of the various levels of approval that are required before any physical activity occurs in the field will illustrate why the Ministry has allocated more resources to the planning function than to field monitoring.

Major licensees may not obtain cutting authority without submitting and getting approval for a Management and Working Plan, a Five-Year Development Plan and a PreHarvest Silviculture Prescription.

Management and Working Plans must be submitted for Ministry approval every 5 years. They must be prepared by professional foresters, they must be referred to other resource agencies, and they must be made available for public review and input before final approval. These plans establish general management objectives and standards.

The next phase is the submission of a Five-Year Development Plan. These plans have to be submitted annually. They identify the specific areas planned for harvest and roads, and other developments planned for construction over the next five years. These plans also have to be referred to other resource agencies, and be made available for public review and input before they are approved.

The next phase is the preparation of the PreHarvest Silviculture Prescription (PHSP). These plans must be prepared by a professional forester, for every area planned for harvest, before harvesting may be authorized. PHSPs provide a detailed plan for the establishment of a new forest after harvesting. PHSPs also have to be referred to other resource agencies and be made available to the public for input before final approval by the Ministry.

It is only at this stage that a licensee may apply, and may get approval, for harvesting trees from specific areas. The cutting authority, typically a "Cutting Permit", includes the standards and special conditions established in the planning process.

The essence of field monitoring is contract administration, and its evident objective is to ensure that the contract conditions are adhered to. This is the function that was audited.

The Ministry has taken the initiative to develop field monitoring standards. This was in process prior to the commencement of the audit and reflected certain risk management objectives. As a

result of the audit recommendations on risk management, these monitoring standards are being further refined.

The overall conclusion in the Report should have reflected the recognition, contained in the body of the report, that the "more consistent" monitoring of the Small Business Forest Enterprise Program reflects a risk management decision by the Ministry. As additional staff were not made available to the Ministry for this Program, existing personnel were re-allocated from other activities.

Silviculture

The timing of the Auditor General's review inherently limits the applicability of some of the Report's findings. The reasons for this are both administrative and because of the time necessary to complete basic silviculture.

(a) Administrative

As the Auditor General has acknowledged in his Report, amendments to the Forest Act in 1987 had a major impact on the Ministry's monitoring of licensee performance. The period following the amendments has been one of transition. New performance standards, the Silviculture Regulation, and an initial audit policy were subsequently introduced. The audit policy, following field testing, was being expanded at the time of the Auditor General's review.

Subsequent to the audit, a revised audit policy and procedures were issued. These address many of the concerns expressed in the report. In addition, during their audit, a draft of the Ministry's Five-Year Strategic Plan for the Silviculture Program 1991-1996, which proposes vastly increased levels of auditing, was provided to the Auditor General's staff.

(b) Basic Silviculture

Since major licensees were given the responsibility for carrying out and paying for basic silviculture on areas which they harvest, insufficient time has elapsed ecologically to allow for all of the phases of basic silviculture to occur. The initial policy gave broad direction along with professional discretion to the field staff to assess the level of enforcement required. The Ministry submits that due to the limited information available at the time, the variation amongst licensees, and the ecologically diverse nature of the forests of British Columbia, it was an appropriate manner with which to set the audit levels for the initial policy.

The Ministry is developing an information management system to analyze audit information as it becomes available. Modifications will be made to the new Silviculture Audit Policy and procedures as is necessary to ensure that the licensees are carrying out their basic silviculture responsibilities.

Conclusion

The Ministry is pleased that the Report states that a good job has been done by the Ministry in communicating its requirements to forest companies and in ensuring that its monitoring staff use those requirements as a basis for monitoring.

As to what improvements can be made in field monitoring, the Ministry's options are limited. Significant improvements in field monitoring are only likely to occur by redeploying existing scarce resources away from other critical areas.

A number of important initiatives that were in process before the audit commenced will soon become operational. These will strengthen the Ministry's management of this function.

Ministry of Transportation and Highways: Introduction

In the 1990 Annual Report of the Auditor General (pp. 73-142), we reported the results of several value-for-money audits we conducted in the Ministry of Transportation and Highways during 1989. We also indicated that we had scheduled our audit coverage over a two-year period because of the size and significance of the ministry and the complexity of the issues for which it is responsible. In this year's Annual Report, we report the results of the second year's audits in the ministry.

1990 Audits

The Ministry of Transportation and Highways has a history of using services purchased through contracts to construct capital works. However, over the last decade the ministry has relied increasingly on contractors. It has expanded the range of services acquired from contractors in the construction of capital works and in rehabilitation projects, and virtually ceased undertaking these projects using its own staff. Additionally, in the latter part of the '80s, the ministry privatized the maintenance of roads and bridges in the province. This shift to contracted services has necessitated a corresponding shift in management emphasis.

To get good value for money the ministry must be a prudent purchaser. This means that it must:

- buy the right goods and services to fit its need;
- pay a competitive price; and
- ensure it receives the goods and services it ordered.

To a large extent, our audits have focused on these aspects of management.

In 1990 we conducted audits that assessed how the Ministry of Transportation and Highways:

- plans and budgets for highway construction;
- ensures that the provincial road and bridge network is protected and maintained at the least lifetime cost;
- monitors the work of road and bridge maintenance contractors to determine that they provide the services required under their contracts; and
- employs the principles of project management for minor capital construction and rehabilitation work.

In 1987, Commissioner Douglas L. MacKay reported the results of his examination into the estimated and actual costs of highways constructed in British Columbia in recent years, with particular reference to the Coquihalla Highway. In his report, the Commissioner was critical of the ministry's general planning and budgeting practices. Starting with the Freedom to Move announcement in

November 1988, the ministry has acted to improve the planning and budgeting practices it uses to determine which new or upgraded roads and bridges are needed to serve the province's increasing population and economic activity. The first report in this section contains the results of our examination of these new practices.

The second report in this section—Protecting Roads and Bridges—examines the issue of least lifetime cost. In this audit, we assessed whether the ministry maintains and rebuilds existing roads at the proper time and to the proper standard to preserve the existing investment in the highway network.

Starting in 1988, the ministry privatized the maintenance of the province's roads and bridges. In 1990, we reported the results of our audit of the road safety aspects of the privatized maintenance services. This year, in the third report in this section, we report on our audit of the impact of privatization on the maintenance of the physical condition of the roads and bridges.

One of Commissioner McKay's main recommendations was that the ministry adopt project management practices common to the construction industry. In 1990, we reported on the extent to which the ministry had implemented such practices in the construction of major capital projects, such as the Okanagan Connector, the Cassiar Connector, and the Vancouver Island Highway. This year, in the final report of this section, we report on the implementation of project management practices in constructing smaller road or bridge works.

Ministry of Transportation and Highways: Highway Planning

A review of how the ministry plans and budgets for highway construction

Audit Purpose and Scope

We conducted this audit to assess whether the Ministry of Transportation and Highways plans and budgets highway construction in a manner that is likely to achieve good value for money.

We included in our audit the period from the release of the MacKay Commission report in December 1987 to the end of August 1990. We focused on the ministry's planning and budgeting of major and minor highway capital construction for the 1990/91 fiscal year. We considered other transportation modes only to the extent that they affect highways.

We conducted our audit between April and August 1990. Our examination was performed in accordance with value-for-money auditing standards recommended by the Canadian Institute of Chartered Accountants, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

Overall Conclusion

The ministry has introduced new planning and budgeting processes which, at the time of our audit, it had used for one budget cycle. These new processes do not yet meet a reasonable standard for ensuring that good value for money is achieved from the highways capital expenditures. They are, however, significantly better than the procedures that preceded them. The ministry is working on several initiatives that, once completed, will make the processes much more likely to achieve good value for money.

The MacKay Commission

In July 1987, the government appointed a Commissioner Inquiry, led by Mr. Douglas L. MacKay, P.Eng., to examine the estimated and actual costs of highways constructed in British Columbia in recent years, with particular reference to the Coquihalla Highway. In his report, in addition to the specific findings on the Coquihalla, the Commissioner

reported on the overall standards and practices of the ministry. Several of Mr. MacKay's general findings related to system planning and estimates are relevant to this audit:

System planning

- There is no comprehensive long-range highway capital plan for the province.
- The selection of capital projects is not based on any identifiable objective criteria, system of assigning priorities, or process of review.
- Highway planning is not integrated with overall transportation planning.

Estimates

- Project estimating procedures are haphazard, inconsistent, and ad hoc. They do not evaluate risk; and they are not documented.

The Importance of Planning

Highways, by their nature, require good planning if good value is to be achieved. Planning is needed because highways cost a lot of money, the demands for highways far exceed available funding, and decisions about highways have economic, social, and environmental impacts that last for decades.

The current provincial highway network consists of approximately 22,000 km of paved roads and 25,000 km of gravel roads, plus about 2,700 bridges. The value of this network is over $12 billion. With population growth and industrial development, there is a constant demand for new and better roads. The ministry will spend $451 million in the 1990/91 fiscal year to build new roads, and to increase the capacity and improve the safety of existing roads.

In undertaking its program of construction, the ministry organizes the work into projects. These projects vary in size and complexity. The following is a profile of the projects the ministry will undertake in the 1990/91 fiscal year:

Project Size	Time to Complete	No. of Projects Active in a Year
Under $1 million	Under 1 year	100
$1 million to $50 million	2 - 4 years	50
Over $50 million	5 - 10 years	8

Plan for Cassiar Connector Project

The large inventory of roads and bridges and the large number of multi-year, multi-million dollar projects make highways a complex business to manage. Planning is designed to make managing easier by providing reliable information from which informed judgments can be made.

Demands for new or enhanced highways come from all parts of the province. In the lower mainland, the biggest concern is commuting capacity. In the north, basic access—not commuting—is the major concern. To meet all current demands would require twice the current funding or more. Deciding which demands deserve priority is a difficult task with major value-for-money consequences.

A typical paved road is expected to last 45-50 years before requiring significant rebuilding or upgrading; a bridge 40 years. Roads can have major impacts on economic development, on communities, and on the environment. An informed outlook to the future is needed to make wise road decisions today.

A plan provides an organized way of dealing with the complex, multi-year decision making that is required for highways. Without a plan, decisions are likely to be ad hoc and haphazard, and unlikely to result in the best value for money. During this audit we identified several situations where savings of several million dollars in total might have been achieved through better planning and budgeting. In one example, major safety improvements were made to a bridge that will soon be replaced to provide additional capacity; in another example a road was widened, yet it will need further widening in the near future.

Past Practices

Before the 1990/91 fiscal year, decisions about which highway expenditures to incur were decided without the guidance of a formal plan. Each year the ministry undertook a large number of small routine projects, such as repaving, adding left turn lanes, and replacing smaller unsafe bridges. The decision to proceed with a particular project was based on the observations of ministry staff in the field, a review of accident data, or requests from citizens, municipal councils, or members of the Legislative Assembly. The ministry attempted to spread funding for this work around to the different parts of the province equally. An accurate assessment of needs and priorities was lacking, particularly from a province-wide perspective. The ministry did what it could with the funds available, then waited until the next year for more.

The province did not have a plan for the development of its overall highway network either. Decisions to proceed with large works projects, which involved new or upgraded highways, were usually made by Cabinet. Normally the ministry had not done the technical analysis to determine the extent of the need, nor had it made an accurate estimate of the project cost before the decision to proceed was taken. Consequently, either the analysis and estimate came after the decision to do the work, or they were not done at all. Many commitments were made with only the first year's cost being known,

without reliable information being available regarding the future costs of completing and maintaining the new or upgraded road. Many projects were accelerated without careful consideration of the additional costs to do so. Decision makers did not have the information base to ensure good value for money was obtained from highway expenditures.

The Freedom to Move Planning Process

During 1988, the ministry carried out a broad overview inventory and evaluation of all modes of transportation in all regions of the province. Following this, in November 1988, the government announced the "Freedom to Move" transportation planning process. The first stage of the process, devoted to identifying transportation needs, was directed by the regional ministries of state. A transportation committee was appointed in each of the province's eight economic development regions. These committees consisted of local politicians and business representatives, who reviewed the overview transportation evaluation reports and asked for public input through public meetings or written briefs. By July 1989, each committee had submitted a report identifying the improvements desired in the transportation system in its region. Although the reviews conducted by the committees encompassed all transportation modes, including road, air, rail, and ferries, most of the recommendations that were made concerned highways. Throughout this stage, the Ministry of Transportation and Highways acted in an advisory capacity, responding to requests from the committees.

The recommendations from the regional committees were classified into three broad priority groupings: immediate, 3-5 year, year 2000. The committees identified 450 highway projects they felt should be completed within the decade. Their first estimates, which understandably are very rough, indicate that these projects would require approximately $8 billion to construct. This is in addition to the $2.5 billion it is estimated will be required to rehabilitate existing roads over the next 10 years.

Starting in July 1989, the ministry integrated the recommendations of the eight regional reports with the ongoing programs and needs of the various transportation agencies. The resulting recommendations were reviewed and approved by the Regional Development Board and the recommended Provincial Transportation Plan was submitted to Cabinet. The members of Cabinet decided which projects in each region would get immediate priority, making relatively few changes to the proposals put forward in the plan submitted by the board. These projects were announced publicly in May 1990 as "Transportation in the '90s".

The Impact of Freedom to Move

The results of the Freedom to Move planning process were available to Ministry of Transportation and Highways when it

prepared its budget for the 1990/91 fiscal year. In its budget, the ministry requested the funds required in order to start work on all of the first priority projects from the Freedom to Move plan. However, many of the projects started by the ministry in 1989 or earlier were still under construction in 1990. These include seven of the

1990/91 budget: it resulted in the Freedom to Move Special Account. Under our parliamentary system, funds appropriated in Votes lapse if not spent by the end of the fiscal year. The Special Account avoids lapsing. The funds voted by the Legislative Assembly are transferred into a Special Account where they can be

eight major projects, the Barnett Highway being the only new one that started in the 1990 fiscal year. After funding was allocated to these carryover projects, only $85 million was available to start new projects. Nevertheless, the ministry is committed to starting on all projects included in the May 1990 document "Transportation in the '90s", although work on some of these projects will be limited to planning and preliminary engineering.

The Freedom to Move planning process had another significant impact on the ministry's

held until they are needed for a capital expenditure. This arrangement removes the need for the ministry to rush or "fast track" projects to avoid losing the funds it has been provided with. Without this urgency to spend, better value for money is likely.

The government also indicated that it intended to provide the Special Account with $3.5 billion over the next five years. This is the first time the ministry has been able to plan with some certainty about future funding levels. Industry also benefits from this funding approach.

Being able to predict the level of highway construction activity will allow industry to make more informed investment decisions, to modernize, and to improve its efficiency. Finally, in addition to providing capital funding for highways, the Special Account also funds the government's contribution to the capital projects of British Columbia Transit Authority, British Columbia Ferry Corporation, British Columbia Railway Company, and local airport improvements. This encourages coordination and cooperation in finding the best transportation solution. For example, planning for the Barnett Highway is focused on moving people by transit, car pools, and personal vehicles, not just by cars alone.

Treasury Board made another change to the ministry's budget in 1990/91 fiscal year which we believe will lead to better value for money. It set up a $10 million fund to be used for early planning of potential highway projects—projects the government has not yet made a formal commitment to construct. This will enable the ministry to do enough planning so that when it proposes a project to the government, the need for the project, the alternative solutions, and the cost of the project will be well defined. Thus, adequate data for making a well-informed judgment will be available when the decision to commit, or not commit, to a project is made.

The Freedom to Move plan and the ministry's enhanced ability to plan make it much more likely that the ministry will get better value for money.

Ministry Reorganization

During 1989 and 1990, the ministry made organizational changes. The policy and planning group in head office was strengthened, and a planning group was set up in each of the six highways regions. The planning function in the ministry now has over 60 expert staff. Private sector consultants are used extensively to perform specific planning studies. In the 1990/91 fiscal year, over $10 million will be spent on planning. We believe the ministry is now much better prepared to do the planning that will lead to better value for money.

Another organizational change in 1989 made the Minister of Transportation and Highways responsible for the British Columbia Transit Authority. This brought all provincial transportation agencies, the Ministry of Transportation and Highways, the British Columbia Transit Authority, the British Columbia Railway Company, and the British Columbia Ferry Corporation, under the same minister. The ministry hired policy analysts for all transportation modes, and a coordinating Transportation Council comprising the chief executive officers of the transportation agencies was established.

Coordination between highways and the other transportation modes should provide many opportunities for value-for-money benefits. Some examples include upgrading the highways leading to ferry terminals to accommodate the new super ferries,

promoting efficient intermodal transfer between rail and trucking, and designing park and ride facilities in the upgrade to the Burnaby freeway. We believe the new processes for dealing with inter-agency issues are much more likely to produce good value for money than occurred previously.

Least Lifetime Cost

The roads and bridges that the ministry builds wear out over time as a result of weather and use. Regular maintenance and periodic rehabilitation keep them in usable condition. The quality of the initial construction and the rate of wear are directly related. The stronger and more robust the initial construction, the longer the road will last, and the less maintenance and rehabilitation it will require. However, high quality costs more money initially. The best value for money is a choice of quality that minimizes the lifetime cost of the road. Lifetime cost includes the initial construction cost of the road plus the ongoing maintenance and rehabilitation costs. The costs of maintaining and rehabilitating roads and bridges are significant. Repainting a large steel bridge can cost $3 million or more.

Traffic volumes cause road wear and limit a road's useful life. Decisions made today about a road standard must anticipate increased usage and also evaluate the relative costs of building in extra capacity now or upgrading later. The analysis of least lifetime cost is further complicated by the need to consider the value of money over time.

The ministry is starting to give more consideration to least lifetime cost in its decision making. Reliable estimates of future traffic demands and project costs are essential to making decisions which achieve least lifetime costs. However, both of these factors are difficult to estimate accurately and the credibility of the decision making is hampered by continuing inaccuracies. For example, an outer freeway bypass was recommended as the best solution to the highway traffic problem through Nanaimo, and the government supported the outer bypass based on initial traffic and cost estimates, as well as on the opposition of the City of Nanaimo to a route through the city. However, when the traffic problem was more clearly defined and the cost estimates for the bypass were more accurately developed, logic supported a shift to an inner expressway through the city. While a change in attitude by the City of Nanaimo contributed to this shift to an inner city route, inaccuracies in estimating traffic demand and costs led to the earlier support for the freeway bypass, which would have resulted in relatively poor value for money, being proposed.

We also noted another example of poor cost estimating which may have led to a poor planning decision. As in the previous case, two alternative routes were being evaluated for a highway. The relative costing that was done for the purposes of corridor selection estimated the cost of one route at $34 million and the other $40 million. The least expensive alternative was chosen. However, when a full cost estimate was done with more detailed planning for this route, the estimated

cost of the selected alternative increased to $56 million. In effect, a decision was made on the basis of a $6 million difference between the cost of the two routes, when the estimate in fact was inaccurate by $22 million. Of course, the decision to proceed with the alternative that was selected may not have resulted in higher costs. With more precise cost estimates, the cost of the route that was rejected may have risen as much as, or more than, the one selected. However, we believe the ministry must do better costing if good value-for-money decisions are to be made.

The Way Ahead

The Freedom to Move plan was prepared in a very short time period. There was no time to do technical studies of all the proposals, or to develop accurate estimates of what the projects would cost. The need to carry on compromised the ability to await refinement by further technical studies. There also was no overall provincial framework that could be used to assess and balance requests from the various regions. As a result, the Freedom to Move plan is not yet suitable for assuring best value for money. Since mid-1989, the ministry has been working to correct these deficiencies. We fully support this.

We believe the ministry needs to address five areas before its planning and budgeting processes for highways will achieve good value for money.

- The projects in the Freedom to Move plan must be assessed technically, for engineering, economic, social, and environmental impact, and costed accurately. Costs should include initial capital costs as well as later rehabilitation and maintenance costs. To do this, the ministry will need to gather considerable data and develop the models to analyze it.

- The ministry should complete proper technical planning and costing before constructing large projects.

- The ministry needs a way of updating the Freedom to Move plan so that it remains current, and must be prepared to adjust the plan when new technical or cost data warrant.

- The Freedom to Move Special Account should have integrity. Within five months of the start of the 1990/91 fiscal year, the government reduced the funding committed to the Account by over 10%. We recognize the government's right to make policy and funding decisions and realize that it needs the flexibility to adapt to changing priorities and economic conditions. However, an important benefit of the Special Account is the stability and predictability it brings to the planning and constructing of capital works over a multi-year time frame. Frequent revisions to funding levels may erode these benefits.

- The need for rehabilitation must be better understood. The

ministry will require better information about the condition of the roads and bridges, and better analytical tools to determine where and when rehabilitation work is needed.

We believe ministry officials are committed to these principles and are taking action where appropriate.

Accountability

Considerable discretion is involved in deciding how much money will be spent on highways and where it will be spent. This element of discretion increases the ministry's obligation for public accountability. The ministry has not yet issued an annual report covering the main period of this audit. When it does, we expect that it will describe the progress it has made since Commissioner MacKay's report in integrating highways and other transportation modes, planning the highway system, selecting projects, and improving cost estimates.

Ministry of Transportation and Highways: Protecting Roads and Bridges

An assessment of how the ministry ensures that the road and bridge network is maintained at the least lifetime cost

Audit Purpose and Scope

We conducted this audit to assess whether the ministry has contracted for the appropriate quantity and quality of maintenance services, and whether it is carrying out its rehabilitation program so that roads and bridges are protected on a least lifetime cost basis.

To make our assessment, we looked at the maintenance standards that the contractors are expected to adhere to, and at how the ministry decides where and when maintenance and rehabilitation activities should be carried out.

We conducted our audit between May and October 1990. Our examination was performed in accordance with the value-for-money auditing standards recommended by the Canadian Institute of Chartered Accountants, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

Overall Conclusion

We found that, overall, the ministry has specified the right maintenance standards for roads, but needs to improve the standards for bridges so that they distinguish more clearly between maintenance and rehabilitation.

Furthermore, the ministry lacks a program for regularly assessing the road condition on a systematic and objective basis. As a result, decisions about the location and timing of major maintenance efforts and rehabilitation projects are based primarily on the judgments of contractors and ministry staff. A bridge inspection program is carried out, but we have some concerns about the reliability of the information it provides.

The ministry is just starting to evaluate systems that will manage the information needed for making investment decisions about roads and bridges on a least lifetime cost basis. At present, there is no assurance that the infrastructure is being protected on a least lifetime cost basis.

Protecting Roads and Bridges

Roads and bridges are the backbone of the province. They provide the basis for the movement of goods and people and, by their very existence, provide the framework for economic development. Roads and bridges deteriorate and eventually must be rebuilt. Paved roads have an expected life of 45 - 50 years. Bridges have an expected life of about 40 years. During their lifetime, roads and bridges must be repaired and rehabilitated so that their original service levels can be maintained.

The ministry is responsible for protecting roads and bridges and maintaining their service levels. It does this primarily through the road and bridge maintenance program and the rehabilitation program. The distinction between the two programs is important.

The purpose of the maintenance program is to protect roads and bridges from excessive deterioration and to keep them at a predetermined minimum acceptable service level. This is done either by repairing defects that would hasten deterioration, or by taking preventive action against potential defects.

The private sector now manages the maintenance program. Between September 1, 1988, and April 1, 1989, the government contracted out all maintenance of the province's roads and bridges. It set up 28 contract areas and negotiated a uniform three-year contract in each area. The contracts are for a fixed price. Payments under the contract are made monthly, regardless of the amount and nature of the maintenance work performed during the month. In total, the ministry will pay $750 million over the three-year term, $246 million of which will be paid in the 1990/91 fiscal year.

The purpose of the rehabilitation program is to restore roads and bridges to their original service level so the life of the investment is prolonged. Rehabilitation work is carried out when maintenance activities are no longer the best way to protect the infrastructure. Typically, rehabilitation involves projects of greater scale than for maintenance. The ministry manages the rehabilitation program by contracting for individual projects according to perceived needs and available funding. Unlike the three-year commitment to maintenance, the ministry approves and funds rehabilitation projects annually. The ministry budgeted $175 million for rehabilitation work in the 1990/91 fiscal year.

At some point, the impact of traffic and environmental conditions reduces the service level of the road to a stage where the cost of maintaining or rehabilitating it becomes more expensive than rebuilding. When it is more economical to rebuild the road rather than to maintain and rehabilitate it, one life cycle has ended and another has started.

In the introduction to these reports on our audit of the Ministry of Transportation and Highways, we describe the three conditions needed

in a prudent purchaser model for contracting of services. The ministry should:

- buy the right goods and services to fit its needs;
- pay a competitive price; and
- ensure that it receives the goods and services it ordered.

In this report, we assess whether the first two aspects have been met in the maintenance and rehabilitation programs. As well, we examine whether the ministry is managing these programs to achieve a least lifetime cost for existing roads and bridges.

Maintaining Roads and Bridges

The maintenance program will protect the infrastructure if the right maintenance standards are set and maintenance contractors adhere to them. The standards should be complete, covering all aspects of the road and bridge network, and should include measures to repair defects, as well as measures to reduce the potential for defects. Also, the ministry should ensure that contractors carry out all the necessary work according to the standards. When maintenance is no longer the proper treatment, rehabilitation efforts should be started.

Adequacy of the Standards

The road and bridge maintenance program is carried out to maintain a safe driving environment and to preserve and protect the highway infrastructure. Last year we reported on safety-related maintenance standards—those that promote a safe driving environment. Safety-related maintenance includes activities such as snow and ice removal, maintenance of road signs, and response to emergencies (rock slides and washouts, for example). This year we examined the rest of the maintenance standards, focusing on those established to preserve and protect the infrastructure.

The standards are primarily results-oriented. They identify the condition to which a particular road or bridge feature is to be maintained. Many standards also identify the quality of the materials, the methods to be used, and the time allowed the contractor to meet the required condition. This time allowance, the response time, is an important part of the standards. The promptness with which contractors can meet these response times is a major factor in getting good value from the contracts and protecting roads from excessive deterioration.

We used the services of a consultant to assist us in our review of the road standards. We concluded that the road standards are comprehensive, covering all major components of the infrastructure. The British Columbia road standards are comparable to those of Alberta and Ontario, as well as to those published by the American Association of State Highway and Transportation Officials (AASHTO). The transportation community recognizes these jurisdictions as having standards that represent the best available practices. While the ministry's road maintenance standards are appropriate overall, both the ministry and the maintenance contractors recognize that improvements can be made. The ministry and the B.C. Roadbuilders Association are reviewing the road standards to identify where adjustments are needed.

We reviewed the suitability of the bridge maintenance standards with the staff involved in maintaining the bridges. We found that both ministry and contractor staff were concerned about the quality of the standards. The distinction between maintenance and rehabilitation for some of the standards was unclear. This distinction is important to make: if a repair need is maintenance, then the contractor repairs and pays; if it is rehabilitation, however, then the ministry repairs and pays. We found that uncertainty about what category a needed repair fits into has resulted in some of the work not getting done.

As worded, the bridge standards are very broad. There is, in effect, no limit to the amount of work maintenance contractors could be asked to do on bridges. Under the terms of the contract, a contractor could be required to rebuild an entire bridge. Like the road standards, the bridge maintenance standards are being reviewed so they can be improved in the next contract.

Protecting at the Least Lifetime Cost

The Life Cycle of a Road

The life cycle of a road is illustrated in Figure 2.6. A road needs to be maintained on an ongoing basis. Costs for this maintenance are significant, often amounting to more than half of the total lifetime costs. They are thus a major factor in determining the total lifetime cost of a road. Rehabilitation costs, although borne less frequently, are also significant.

A least lifetime cost approach to roads would ensure that the original road design considers alternatives for construction, maintenance, and rehabilitation. This way the total lifetime cost of the options available could be projected as illustrated in Figure 2.7. Building to a higher quality initially will likely reduce the subsequent costs of maintenance and rehabilitation. If the initial quality is lower, these costs will likely be increased.

Once a road has been built, keeping it serviceable on a least lifetime cost basis requires coordination between maintenance and rehabilitation. The right spending decisions need to be made at the right time. There is an optimum level at which maintenance funds should be spent during the life of a road. Spending too much does not provide a net benefit and it wastes funds. Spending too little leads to more rapid deterioration and increased future costs. Spending at the right level will provide the best value and contribute to a least lifetime cost. Maintenance activities should be carried out as long as they are the best treatment. When maintenance is no longer appropriate, rehabilitation should be done. How, when, and where the $421 million in maintenance and rehabilitation funds budgeted for the 1990/91 fiscal year is spent are decisions that determine whether the ministry is protecting roads and bridges at least lifetime cost.

The consequences of the ministry's spending decisions are not necessarily evident in the short term. To understand the impact of those decisions, the ministry requires information about the condition of the infrastructure and the costs of repairs. Information about both maintenance and rehabilitation costs is necessary if the right spending choices are to be made from among alternative repair strategies. In this part of the report we look at whether the ministry has the information and systems it needs to manage at a least lifetime cost.

The Cost of Maintenance

The maintenance contracts were negotiated on the basis of a fixed sum to cover three years of maintenance services. The ministry does not receive information from the contractors about the cost of specific maintenance activities. We believe, however, that some cost information is needed for the ministry to understand the implications of choosing among alternative maintenance treatments, or between maintenance and rehabilitation.

Although the maintenance contractors have detailed information

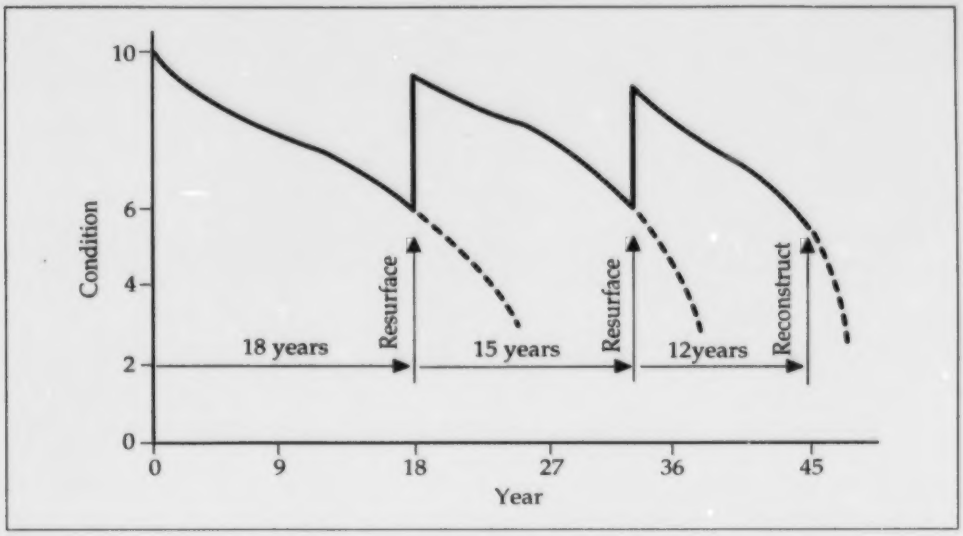


FIGURE 2.6

Ideal Life Cycle of a Road

Source: Roads and Transportation Association of Canada, Roadway Infrastructure Study (1987)

Figure 2.6 portrays this ideal life cycle of a paved road. Though this is for a particular road, the time frames and activities are similar for most paved roads in the country. The age of the road is shown on the horizontal axis and the condition is shown by a numerical scale on the vertical axis. For this particular road, the most economical time to restore is when the condition rating is 6, reached after 18 years. If this is not done, the complete failure of the road can be expected after about 27 years. It is more economical to prolong life at 18 years by resurfacing than it is to completely reconstruct it at 27 years.

At about year 33, the condition is again at 6 and resurfacing is again called for, raising the condition to close to 10.

By the time the road is 45 years old, reconstruction will be required because of physical degredation and functional obsolescence.

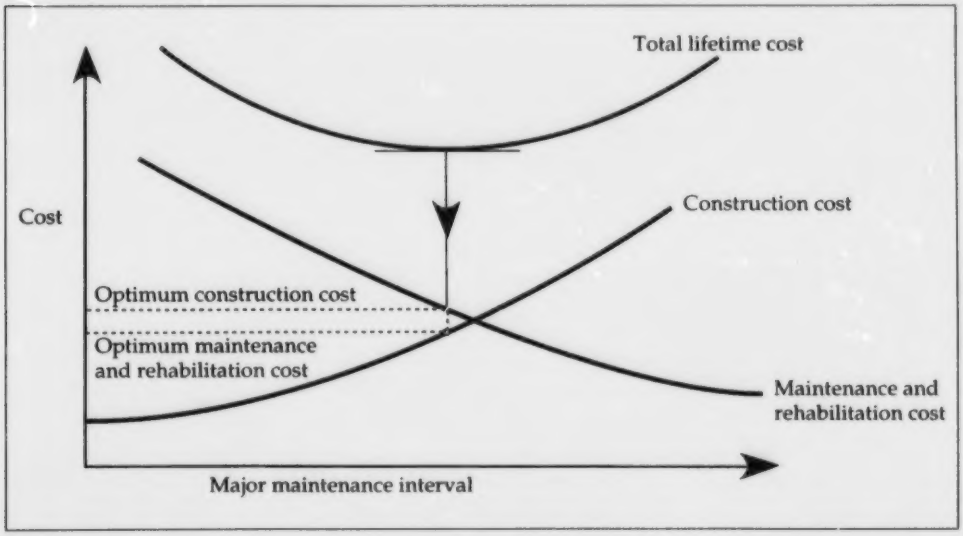


FIGURE 2.7

Least Lifetime Cost Curve

about their maintenance costs, they are not required to share it with the ministry. The ministry does not believe that detailed cost information from the contractors would be compatible with the lump-sum and results-based nature of the maintenance contracts.

We think the ministry would be better informed and more confident about its decisions if it had a clearer understanding of maintenance costs. The ministry has some data available, such as costs per kilometer and its own maintenance cost records. However, internal cost records from the ministry-operated maintenance program are now two years old. As time goes by, these records will become more dated and of little value for predicting the cost of specific maintenance treatments. This situation may not be of concern for routine, day-to-day repairs, but it becomes a factor when a major problem arises and several alternative treatments must be considered. Understanding the costs is then important so that the choice made from the available alternatives provides the best value for the ministry.

We encourage the ministry to find complementary sources of maintenance cost information to enhance its cost-estimating procedures. In our opinion, the current arrangement is not giving the ministry sufficient assurance that maintenance activities are contributing to the least lifetime cost of the network.

Whether or not a three-year term for maintenance contracts will minimize long-term costs is uncertain. There has not been enough experience with a privatized maintenance program in British Columbia to assess what effect contractor decisions may have on future costs. In the course of our audit we found some contractors who said they were willing to spend more now if it would lead to savings over the long term. These contractors felt confident about their abilities and the likelihood of their continuing to provide services into the next contract term.

However, we do not think it is unreasonable to assume that some contractors are conducting their activities so that their costs over the three-year period of the contract are minimized. Such efforts at saving on short-term maintenance may reduce road life so that rehabilitation is needed sooner than expected. This would increase long-term costs so that the lifetime cost is not the lowest to the province.

The Cost of Rehabilitation

In 1987, the MacKay Commission examined the ministry's processes for estimating project costs. It reported that the ministry had difficulty developing reliable cost estimates for capital and rehabilitation projects. We found that the ministry is still having difficulty estimating the cost of rehabilitation projects.

In reviewing some rehabilitation projects, we found considerable variation from the initial estimate to the final project cost. Because the ministry can transfer funds from one project to another, there are no consequences to

over- or underestimating the cost of specific projects. As a result, staff feel confident that projects will be completed even if the estimates are unreliable. We believe that ministry staff should make stronger efforts to estimate costs more accurately. Such accuracy is needed so that better decisions can be made from alternative solutions to highway problems. Until the ministry improves its cost estimating, it cannot be sure that it will make the right choices.

Managing rehabilitation projects to achieve economy is important once a project starts. We look at the ministry's ability to manage these projects in the section of this report titled "Minor Capital Construction and Rehabilitation Projects."

Where and When to Maintain and Rehabilitate: Making the Right Decisions

Maintaining the Infrastructure

The maintenance contractors will be paid $246 million in the 1990/91 fiscal year for their services. Where and when these funds should be spent is important to achieving a least lifetime cost.

Some of the maintenance work is routine and involves the day to day repairing and general upkeep of roads and bridges. This work is done in response to emergent problems. Examples include manually patching potholes and repairing accident damage. Other maintenance work is larger and more expensive, needing to be planned annually. Examples include replacing culverts, restoring ditches, sealing cracks in the road surface, and machine patching large sections of road.

The maintenance contracts recognize these two categories of maintenance work and specify requirements for both routine and annual maintenance. To ensure that a minimum level of annual planned activities is carried out, each contract specifies targets for each of the 16 annual maintenance activities. There is flexibility in the amount of any activity that a contractor will carry out, but in total he must carry out the total dollar value specified in his contract. Overall, contractors are to complete $123 million of this annual maintenance over the three-year period of the contracts. For some contractors, approximately 20% of their total contract is allocated to annual activities. Selecting the right areas for this annual planned work is important to achieving least lifetime cost.

At present, the selection process for this planned maintenance work is based on visual observations by ministry and contractor staff. During their travels through the contract areas, area managers and contractor staff spot locations which may be suitable for carrying out planned maintenance activities. The contractor develops an annual work plan which the ministry reviews and approves. Staff told us that the general practice is to select the worst sites on the highest class roads as the first priorities. This approach,

however, does not necessarily lead to the right decision for getting the best value.

We think this process could be improved if the judgments of ministry and contractor staff were supported by objective information about the condition of the road. An objective, systematic process is needed to assess the condition of roads, rank them, and identify an appropriate treatment consistent with a least lifetime cost approach.

Rehabilitating Roads

Recently, the ministry recognized the need to understand the province's rehabilitation requirements better and it commissioned a study to review the matter. That study, "Good Roads Cost Less", estimated that overall rehabilitation needs for roads were $250 million a year over 10 years. Actual funding for the 1990/91 fiscal year totaled $175 million, a 20% increase over the prior year, but less than the study recommended.

While the report stated that 1,000 km of road per year need to be rehabilitated, the funding provided allows for only 780 km.

The allocation of these scarce rehabilitation funds is even more important than the allocation of maintenance funds. In most instances, the future cost of deferred rehabilitation is greater than the future cost of deferred maintenance because deterioration is more advanced and extensive.

The funding of $175 million means that some needed

rehabilitation work will have to be deferred. Decisions about where to spend available funds need to take into account the present rehabilitation needs and the future cost impact of deferring some of the work. In making its decisions, the ministry can either preserve those assets whose time for rehabilitating has come, or rehabilitate those assets which have already exceeded the best time for rehabilitating. The literature we reviewed suggests that asset preservation should be the priority. Instead, however, we found that some ministry staff are using the opposite strategy. Staff base their decisions on the subjective evaluation of road conditions and the ranking of priorities, rather than on the systematic collection of objective information. This process does not allow comparative analyses of the lifetime cost of different alternatives.

Rehabilitating Bridges

For bridges, the rehabilitation budget is $37 million rather than the $75 million recommended in "Good Roads Cost Less".

The ministry has a structured inspection program to assess the condition of bridges. However, we found that these inspections were not all up-to-date and that the reliability of the assessments concerned some ministry staff. Bridge area managers are responsible for assessing bridge conditions. We noted that the experience and qualifications for such work varied considerably, ranging from extensive engineering experience to little or no experience with bridges. Because of these differences, the reliability and consistency of assessments were not assured.

While there is some compensation in having bridge engineers in the regional offices, we think the ministry needs greater assurance that the annual condition assessment is reliable. At present, the ministry has no bridge inspection training program for bridge area managers.

Before doing any major bridge work, the ministry carries out a detailed technical assessment. However, rehabilitation efforts have not kept up with rehabilitation needs. For example, most regions have aging wooden bridges with excessive maintenance needs. If a least lifetime cost approach had been used, these bridges would have been rehabilitated or replaced before reaching their current condition.

Coordinating Maintenance and Rehabilitation

Overall, the ministry needs a more integrated approach for maintenance and rehabilitation planning. This coordination is difficult to achieve because funding for the rehabilitation program is determined annually, while that for the maintenance program is based on a three-year funding commitment. The level of rehabilitation funding affects the selection and timing of maintenance projects. Uncertainty well into the fiscal year about the amounts available for rehabilitation prevents efficient coordination of spending in the two programs. In particular, inefficiencies arise in the planning and approval of projects

that are in the gray area between maintenance and rehabilitation.

In at least one case the ministry had agreed to a contractor undertaking some major work at a specific site but, after he had hired a subcontractor to carry out that work, the ministry found itself having rehabilitation monies available for that site. This forced the maintenance contractor to change the timing and location of the subcontractor's work, resulting in additional costs to the contractor.

Maintenance contractors do not participate in planning rehabilitation projects. We think the ministry should consider their involvement because of the impact rehabilitation projects have on future maintenance costs.

Managing Information: The Need for an Automated System

The ministry recognizes that to manage on a least lifetime cost basis, it requires an automated system—a pavement management system. These systems have been used by several other Canadian jurisdictions and in many American states for some years. They retain extensive volumes of information about road condition and costs, and thus they can provide objective, analytical information to support investment decisions.

Some of this information can be used to identify the funding level needed to maintain the infrastructure to a particular standard, and to show the implications of different funding levels. When funds are constrained and the legislature allocates less than the ministry may want, the pavement management system data can be used to identify the best allocation between rehabilitation and maintenance. For a specific road segment, the system would indicate when rehabilitation should replace maintenance as the proper treatment.

The ministry has been considering incorporating a pavement management system into its operations for several years. It has now moved to reviewing and testing available systems. How successful it will be with this review is too early to assess.

Implementing a pavement management system will require additional expenditures by the ministry. It is therefore important that the cost of such a system be more than offset by the benefits it provides. Because the value of the infrastructure is estimated at $12 billion and approximately $0.5 billion is spent annually on maintenance and rehabilitation, only a slight improvement in the decision making would, we believe, justify the cost of a pavement management system. The system would allow the ministry to demonstrate objectively the actual state of the infrastructure, the funding needs, and the future cost implications of current funding levels. However, although the need for a pavement management system seems clear, the ministry still must consider which type of system would meet its needs most economically.

The cost of the system will depend on ministry direction. Pavement condition can be rated by visual inspection, by instrument, or

by a combination of both. The State of Washington relies on visual inspections carried out every two years, a schedule that coincides with the state's funding cycle. Its system covers 13,000 km divided into 11,000 segments and costs $250,000 a year to operate. A system based on measurements by instruments would have greater costs, but would provide more consistent and accurate information.

Looking Ahead

The ministry is facing significant challenges in ensuring that roads and bridges are protected in an economic manner. Funding does not currently appear to be at the optimum level, and the ministry's ability to maximize the value of investment decisions is hampered by information inadequacies. As a prudent manager, the ministry will need to improve the information it should have to support its decision making. It will also need to improve how it analyzes and evaluates that information.

We believe the development of a pavement management system should be continued. One will be needed to ensure that the ministry has an objective process for analyzing the information. This is a long-term initiative. The ministry will need to develop a program to assess road conditions on a regular basis. A better understanding of maintenance and rehabilitation costs for alternative treatments will be important as well.

For bridges, we believe the ministry should consider using a bridge management system to aid decision making.

Regulation of Commercial Traffic

Roads and bridges continue to deteriorate even if the maintenance and rehabilitation programs are exemplary. Factors other than maintenance, such as the quality of the original construction, environmental influences, and traffic also affect the rate of deterioration. Regulation of commercial traffic, in particular, plays an important role in protecting roads and bridges.

In British Columbia, this regulatory program is carried out by the Commercial Transport Division of the Ministry of Solicitor General, which monitors compliance with legal load limits through the weigh scales program. A network of permanent and portable scales operates around the province. The focus of the program is on control, limiting the amount of overloads on the road and penalizing those vehicles that are overweight. In 1989, there were 15,850 overweight violations recorded by the weigh scales program. In that same year, approximately 26,000 permits were issued allowing for overweight vehicles.

The Province sets the maximum allowable weight and the related maximum weight per axle. These are the legal limits that commercial traffic must adhere to. Traffic that exceeds these legal limits hastens a road's deterioration dramatically, leading to increased maintenance requirements and reduced road life.

By setting the maximum vehicle weight limit at 63,500 kg, the Province has made a conscious decision to accept the level of deterioration that such vehicles cause, in return for the benefits they provide. Trucks exceeding this maximum weight are a serious concern because they have an accelerating effect on road deterioration.

For example, let us assume a road is designed to carry a truck at the legal load limit of 63,500 kg and the design allows for 20,000 passes of that vehicle over a 15-year period. At that point the road will need to be rehabilitated. Research has shown that if the vehicle actually carries 10% more than the legal load, then the road will only absorb 13,700 passes before it needs to be rehabilitated. This represents a 30% reduction in the pavement life. The road originally designed to last 15 years will last only for 10.5 years.

The total cost to the taxpayer of truck overloads is not always clear. However, a road will occasionally experience the impact of heavy traffic in a very direct way, allowing ministry staff to observe its effect.

In one region, for example, the opening of a forest area for harvesting led to a major increase in the volume of truck traffic. At peak volumes, there were more than 400 truckloads per day on one of the region's highways. When ministry staff observed these trucks being weighed, they found that more than half were hauling overloads, some at 20-25% above the legal limits. The road quickly deteriorated. The ministry was then faced with rehabilitating the road sooner than would otherwise have been necessary. It repaired the road base in some sections and repaved about 46 km, all at a cost of approximately $7 million.

The regulatory program is not designed to assess the overall impact of commercial traffic on the road, or the cost to the public of that traffic. The primary objective of the regulatory program is to ensure that truck traffic complies to legal load limits. The protection and preservation of the infrastructure do not appear to be part of the regulatory approach. We believe that better coordination is needed between the Ministry of Transportation and Highways and the Ministry of Solicitor General to determine the impact that overweight traffic has on the cost of future maintenance and rehabilitation needs.

Ministry of Transportation and Highways: Monitoring of Maintenance Contractors

An assessment of how the ministry monitors the work of maintenance contractors to ensure that they provide the services that are required under their contracts

Audit Purpose and Scope

We conducted this audit to assess whether the ministry's monitoring process allows it to determine whether contractors are complying with the requirements of the road and bridge maintenance contracts. To carry out the audit, we examined the ministry's monitoring system and the work reporting system for the contractors maintenance accomplishments.

We carried out our audit between May and October 1990. Our examination was performed in accordance with the value-for-money standards recommended by the Canadian Institute of Chartered Accountants, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

Overall Conclusion

We concluded that the monitoring program is adequate for assessing the level of contractor compliance with contract requirements, but is not yet being fully applied. Information from the monitoring efforts to date suggests that some contractors are not yet meeting the standards set out in the maintenance contracts.

The contractor work reporting system, however, does not provide ministry staff with data that is specific enough to relate the amount of maintenance work that is reported to expected levels of performance. The ministry, therefore, does not have all the information needed to understand fully why contractor performances vary.

Privatized Road and Bridge Maintenance

Between September 1, 1988, and April 1, 1989, the government contracted out all the maintenance of the province's roads and bridges. Twenty-eight contract areas were established and a three-year contract with uniform terms and conditions was signed in each area. The

contracts are for a fixed price, although the ministry can buy extra work on a unit price basis. Payments under the contract are made monthly, regardless of the amount and nature of the maintenance work performed during the month. In total, the ministry will pay $750 million to the contractors over the three-year term of the contracts.

In the introduction to these reports on our audit of the Ministry of Transportation and Highways, we describe the three conditions needed in a prudent purchaser model for contracting of services. The ministry should:

- buy the right goods and services to fit its needs;
- pay a competitive price; and
- ensure that it receives the goods and services it ordered.

Two years ago we examined the second aspect of being a prudent purchaser when we assessed the process used by the ministry to contract for maintenance services. Last year we reported on safety-related maintenance work—the activities that promote a safe driving environment. Safety-related maintenance includes activities such as snow and ice removal, maintenance of road signs, and response to emergencies (rock slides and washouts, for example).

This year we considered the first and third aspect. We assessed the first aspect, whether the ministry is buying the right goods to fit its needs, by evaluating the maintenance standards designed to preserve and protect the province's highways. Our assessment of those standards is included in the section of this report titled, "Protecting Roads and Bridges."

In this section of our report we assess whether the third aspect of this model, ensuring that the ministry receives the goods and services it orders, has been incorporated into the maintenance program. It updates our previous findings on the monitoring program and looks at how the ministry ensures that it is getting the services it contracted for.

Monitoring Performance

Each of the 28 contracts was negotiated for a lump sum amount covering the three-year contract period. Payments are made monthly in accordance with the payment schedules specified in the contracts. They are not linked to actual monthly service levels or performance quality. All of the standards define the condition to which road and bridge features are to be maintained. Some also specify the expected process or the frequency of performance. In these contractual arrangements, good value is achieved if the contractor meets the end result expectations and adheres to the processes or frequencies specified. To provide information about how well contractors are performing, the ministry established a monitoring program, the Quality Assurance Program. This, we found, is not yet operating as well as it should.

Adequacy of the Monitoring Program

We found that the design of the Quality Assurance Program is basically appropriate and that it addresses most aspects of contractor performance in varying degrees.

In the program, ministry staff are required to inspect the "present state" of the highways. Area managers must inspect at least 15 randomly selected sections of road each month. They determine whether the condition they observe represents an acceptable level, given the maintenance requirements for that road. They are also required to carry out "in-process" and "end-product" inspections, by examining maintenance work while it is going on and after it has been completed. These inspections are carried out on a judgmental sampling basis, with the required frequencies specified in the program manual. On average, 20-30 of these inspections should be carried out monthly.

Last year, when we reviewed the monitoring program for safety-related standards, we questioned whether 15 present state inspections in each area was a proper level, since contract areas varied significantly in size and number of features. An independent review contracted by the ministry has since concluded that such a level is appropriate for each contract area. The administrative ease of using this level is justified in this case, even though the areas vary in size, because the statistical confidence would not necessarily change with a higher number of inspections. Because evaluations are based on subjective judgments, an inspection result is only a rough indicator of quality rather than a precise statistical measure.

The ministry, we learned, is exploring ways of getting more or better information for the same effort. It is reviewing the Quality Assurance Program to see if present state reviews are being carried out on the right roads and at the right frequencies.

Some maintenance standards specify minimum frequencies at which activities such as mowing, litter collection, brushing, and highway inspections are to be carried out. The Quality Assurance Program, however, does not include the monitoring of contractor adherence to frequency requirements for activities. The ministry's interest is in the end result. We believe the ministry should review its expectations of the frequency requirements in the contracts. If it is interested only in the result, we think the need for frequency requirements is questionable.

Ability to Monitor

Last year we reported that ministry staff were not carrying out all of the Quality Assurance Program requirements. This year we found that the ministry is still unable to carry out all of the required monitoring.

Although staff are generally able to carry out most of the required present state inspections, they continue to have difficulty in meeting the in-process and end-product requirements. These inspections focus directly on the quality of

maintenance work. The ministry's internal audit staff reviewed the monitoring carried out in all contract areas for June and July 1990 and found the requirements completed (expressed as provincial averages) to be as follows:

	Present state	In-process/ end-product
June	88%	35%
July	84%	39%

As a result, the ministry has only limited information on which to base assessments about the quality of maintenance work. If it is to plan for future maintenance needs, it requires up-to-date information about work quality. Under the maintenance contracts, for example, the ministry expects the contractors to plan for, and carry out, $26 million of major patching over the three-year term. The quality of that piece of work can affect future costs. If asphalt, for instance, is compacted at 10% below specification, the life of the material is shortened by 30%. This would lead to higher future maintenance costs. For major patching, the Quality Assurance Program calls for a test of the materials used, an inspection while the work is under way, and an inspection of the completed work. If these are not carried out, the ministry has no assurance that its standards have been met.

The ministry is planning to implement a pavement management system in the next year or two. This would allow it to project objectively the future requirements and costs of maintaining roads. Ensuring that maintenance work is of proper quality will become even more important in this environment.

Several factors account for the ministry staff's inability to meet the monitoring requirements. Foremost is that each area manager has other responsibilities, such as managing small capital projects and dealing with public issues and inquiries, in addition to overseeing his maintenance contract responsibilities. Another factor is the size of the contract areas, which vary from 100 km to more than 1000 km of road.

The ministry is reviewing the role of area managers and the features of each contract area so that responsibilities can be distributed more equitably. Even if it were to level out the work load, however, the ministry has not yet adequately considered what staff levels are needed to meet all the current responsibilities of the area managers.

In addition to the present state, in-process and end-product inspections, the Quality Assurance Program also requires that staff assess contractor management monthly. We found that this is generally being done, although much of the information on which they base the assessments is available only in general terms. The maintenance standards do not contain management standards against which contractors can be assessed objectively, as is the case with the other inspection requirements. Consequently, the information about management is derived subjectively. It is not based on a detailed review of management attributes and skills, and it reflects district level perceptions only, which may or may not be accurate or consistent from one contract area to another.

The ministry's overall management rating is intended to be based, in part, on an assessment of response times: are contractors meeting the times set in the contracts? Since timeliness is a key condition to getting quality performance, response times are one of the bases for determining whether a contractor is performing to standard. Each month, area managers are expected to complete a form which lists a minimum of 10 maintenance activities they tracked. A review by the ministry's internal audit staff found that many districts were not using these forms, and that there was thus no evidence that this aspect of contractor performance was being assessed.

Evaluating Performance

Interpreting the Monitoring Results

The ministry uses the information on the Quality Assurance Program forms to develop ratings of contractor performance, both for specific activities and overall performance. Also, the information from documents such as Non-Conformance Reports (NCR), which are used to inform contractors of situations that are not to standard, is a further indicator of performance.

The overall performance rating is a summary of the individual ratings of work performance (in-process and end-product assessments), present state assessments, and management assessments. Each contractor is rated monthly and there is also a cumulative contract-to-date rating. The overall rating should reflect a contractor's ability to manage the program. We found that this rating, as developed from the ministry's monitoring information, shows that a substantial number of contractors are not meeting their obligations at an acceptable level. In September 1990, 10 contract areas were below the acceptable rating, an improvement over May 1990 when 12 were below. However, it still represents a large number of contractors who, according to the ministry's ratings, are not providing the public with good value. A minimally acceptable rating means that some of the standards have not been adhered to, but enough "good" and "fair" performances have been achieved to give an overall rating that is acceptable. Our review of the individual ratings suggests that low management assessments are a major factor in the overall ratings being below acceptable levels.

The monitoring program requires the ministry to issue an NCR to the contractor when actual work performed is not to standard, or a road condition is not to standard. The contractor is expected to respond to the NCR by bringing the work or road condition up to standard. These reports are evidence of specific instances where contractors have not met the standards.

Many of the NCRs had not been adequately addressed and were still outstanding when we reviewed their status at September 30. However, because not all the contract areas use the central monitoring system data base to record the number of NCRs outstanding, the total number outstanding at any

month end cannot be routinely tracked. Of the five contract areas we looked at, only two were recording their outstanding NCRs. At the end of September, they had, respectively, 140 and 19 outstanding.

During our interviews, many staff expressed frustration at their inability to get the contractors to respond quickly to the NCRs. As the contracts include no direct financial penalties for poor performance, other than cancellation, staff have few ways of ensuring that NCRs are addressed on timely basis.

Understanding Performance

With 20 new contractors, it is not surprising that there are some major differences in the quality of their performance. If the ministry is to promote improvements in contractor performance, it should understand why different levels of performance show up. At present it does not collect all the information we believe it needs to develop that understanding.

Adequacy of Contractor Reporting

We found that, although contractors are meeting the ministry's reporting requirements, ministry field staff do not use the information to any great extent. The reporting system contains information about accomplishments such as the area patched or the number of kilometers graded, but it is presented at too general a level. Staff are unable to relate the information about work carried out to expected levels of performance.

Because the ministry is managing a lump-sum and results-based maintenance contract, it does not require productivity information from the contractors, nor does it attempt to estimate the cost to the contractor of specific maintenance services. We believe, however, that the contractor work reporting system should provide better information about maintenance accomplishments to allow the ministry to understand more fully the performance of its contractors. As well, improved contractor work reporting data will enable the ministry to carry out more meaningful comparisons of contractor performances. At present, the reporting system does not allow the ministry to understand which contractors are more cost-effective than others, or where contractors can improve processes so as to be more cost-effective.

Looking Ahead

Monitoring and enforcement of contract requirements will continue to be a priority. If the ministry can satisfy itself that suitable standards are being met at an economic price, then it is receiving good value from the contracts. We have already noted the inability of ministry staff to satisfy the monitoring requirements. This must change if the ministry expects to show that contractors are carrying out work that is suitable in both quantity and quality. The ministry must position itself so it can ensure that the objectives of the maintenance program are being met while, at the same time, letting the contractors manage the program.

Ministry of Transportation and Highways: Minor Capital Construction and Rehabilitation Projects

A review of how the ministry has implemented the principles of project management for minor capital construction and rehabilitation work

Audit Purpose and Scope

In our Annual Report last year, we reported what the ministry has done to ensure that it gets value for money spent on major highway construction projects. We described how the ministry has implemented the "well-established principles of project management" referred to by Commissioner MacKay in his report of the inquiry into the Coquihalla and other highway projects.

We conducted this year's audit to assess what the ministry has done to ensure that it gets value for the money it spends on minor capital construction and rehabilitation projects.

We performed this audit from a process, rather than a results, perspective. We studied the ministry to determine whether its methods for managing projects are consistent with generally accepted principles of good project management. We reviewed the results of specific projects only for illustrative purposes.

We conducted our audit between April and September 1990. Our examination was performed in accordance with value-for-money auditing standards recommended by the Canadian Institute of Chartered Accountants, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

Overall Conclusion

The ministry has made progress in improving the way it manages minor capital construction and rehabilitation projects. However, it has not yet reached a point at which we can provide assurance that it is managing minor capital and rehabilitation projects in a manner that will ensure it obtains value for money.

We think it is reasonable to expect that the ministry will have the same basic project management approach to ensuring that it obtains value for money from its minor capital and

rehabilitation projects as it has for major projects. As Commissioner MacKay observed, "Project management need not be limited to large capital works. . . . [T]he principles can be applied to the development and implementation of all capital works." We looked for evidence that the ministry had implemented the same principles of project management for these projects.

It would be unrealistic to expect that a $50,000 project should be managed exactly the same way a $5 million or $50 million project would be. However, a certain minimum level of management, documentation, reporting, and review should occur for any project in the ministry. Larger, more complex projects would be more formally structured and documented. For smaller, straightforward projects, many aspects of project management might be handled informally.

In view of the time which has passed since the report of the MacKay Inquiry and the ministry's acceptance of its recommendations, we would have expected to see more progress in implementing those recommendations. In our opinion, the ministry has not yet developed its resources, policies, and systems for project management to the extent it needs in order to manage all its projects in the most cost-effective manner.

Recent History of the Ministry

In December 1987, Commissioner Douglas L. MacKay reported the results of his inquiry into issues relating to the estimated and actual costs of highways constructed in recent years in British Columbia. He was critical of the way the Ministry of Transportation and Highways planned, initiated, managed, and reported highway construction projects; and of the ministry's failure to develop a comprehensive approach to project management of large multi-year highway projects.

Many of the Commissioner's criticisms were directed, in particular, at the way the ministry managed what are now called major projects. He recommended that the ministry adopt "proven project management practices for major projects," stating that "there is no doubt that the implementation of the well-established principles of project management will save taxpayers money." "Project management," he observed, "as the name implies, is the management of a project . . . a planned undertaking with defined boundaries and a clear objective. A project is not an ongoing activity but rather has a defined beginning and clear objectives leading to a defined end."

In the wake of the MacKay Inquiry into the Coquihalla project, the ministry undertook to change the way it managed highway construction projects. Changes included an extensive ministry reorganization, carried out in the fall of 1988, and a commitment to the principles of project management as practiced in the private sector.

During the same period, it also privatized road and bridge maintenance. In addition to these changes, the government introduced an Early Retirement Incentive Program (ERIP) that resulted in the loss of a large number of the ministry's most senior and experienced people.

Reorganization of the Ministry

In the new organization structure of the ministry, program delivery is divided into two departments, each under the direction of an Assistant Deputy Minister (Figure 2.8).

The Planning and Major Projects Department is responsible for the transportation planning role of the ministry, and the management of selected major construction projects. Major projects are those construction projects that are anticipated to cost more than $50 million, or smaller projects of special complexity. Anything else is considered to be a minor project. There are many minor capital and rehabilitation projects, and they are widely distributed throughout the province.

The Highways Operations Department is responsible for all minor capital construction projects (including rehabilitation) and for monitoring maintenance of existing highways. The Highway Operations Department delivers its maintenance and capital construction and rehabilitation programs through an organization consisting of 6 regional and 28 district offices located throughout the province. In addition to these offices, there are a number of technical branches, located mostly in Victoria, which provide special expertise and services in support of the region and district offices.

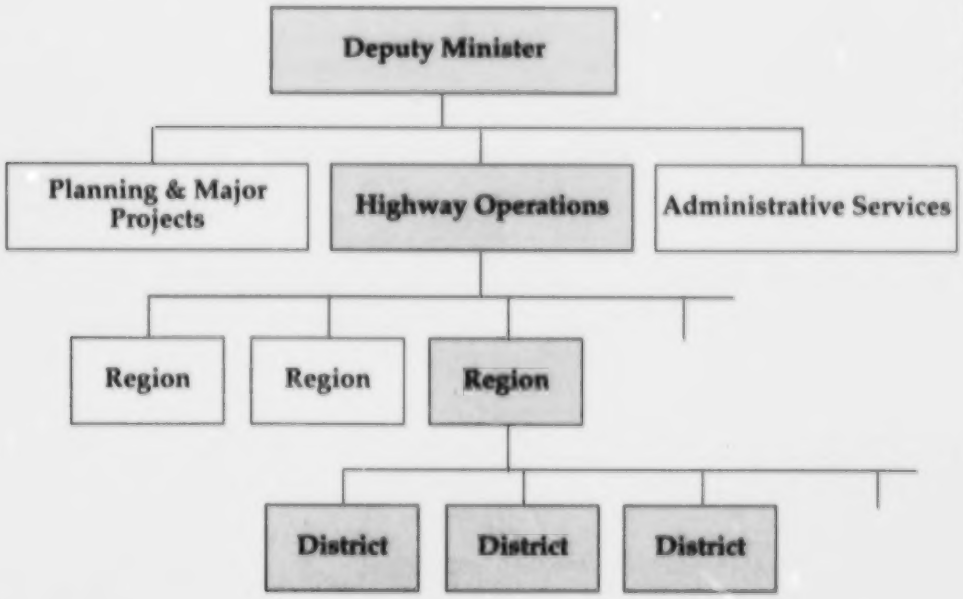


FIGURE 2.8

Part of Ministry Organization Chart

Although the ministry has had a regional and district structure for some time, the regional and district organization was responsible primarily for maintenance and rehabilitation, not capital construction. The new focus of regionalization includes responsibility for monitoring the privatized maintenance function and for managing capital and rehabilitation projects other than major projects. This means that many jobs that were previously done in Victoria, including design and construction management, are now done in regional offices.

Privatization and the Early Retirement Incentive Program

When the ministry privatized the maintenance of roads and bridges, the way in which the ministry did business changed dramatically. The privatization initiative was an immense undertaking that has required a significant share of senior executive attention during the last several years.

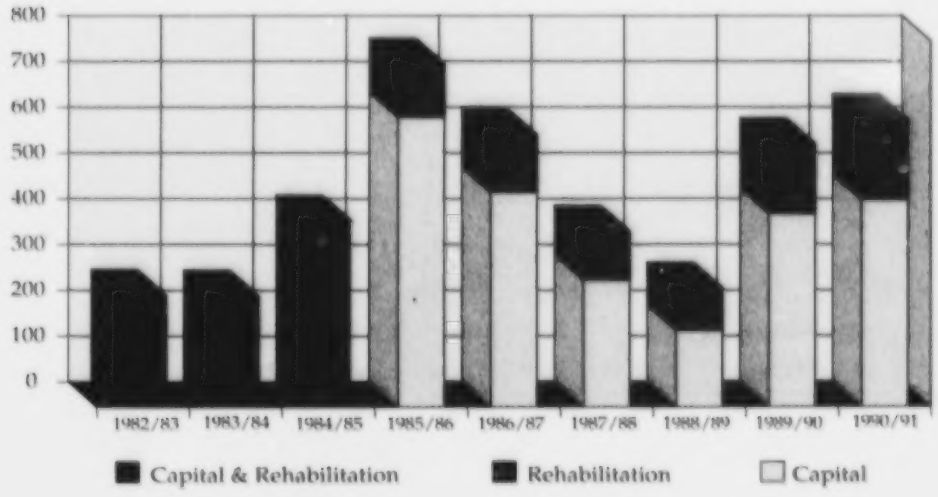
Distinct from privatization, but occurring at the same time, was the Early Retirement Incentive Program (ERIP). This program made it attractive for employees older than age 55, particularly those with long service, to retire early. Many in the ministry took advantage of this opportunity, with the effect that considerable experience was lost from the ministry during a very short period.

Ministry Funding Increase

Funding for capital and rehabilitation work in the ministry has fluctuated over the past decade (Figure 2.9). Following relatively high spending for capital projects during 1985/86 and 1986/87 fiscal years, there were two years of relatively low spending. During the past two years, funding has increased and it is anticipated that spending on

FIGURE 2.9

Spending on Capital and Rehabilitation ($ millions)



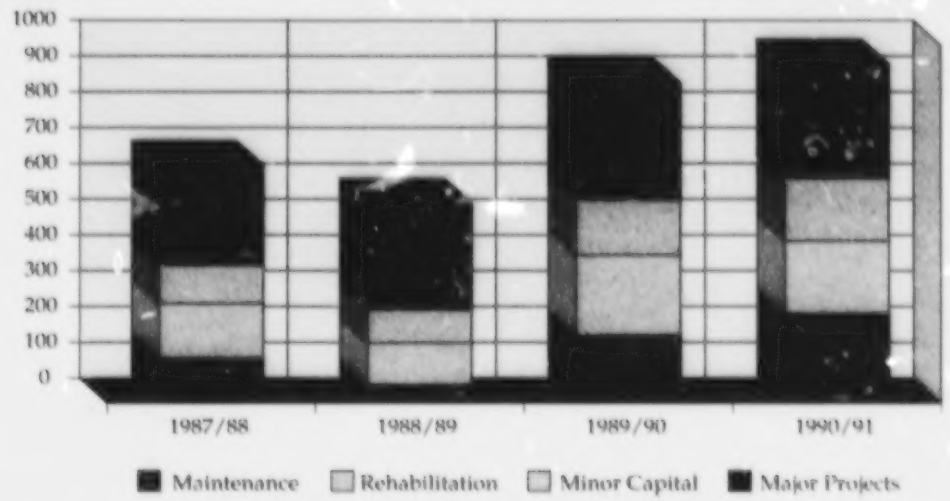


FIGURE 2.10

Spending on Major Projects, Minor Capital, Rehabilitation and Maintenance ($ millions)

capital and rehabilitation will remain high for at least the next several years.

Capital construction involves those activities that increase the capacity of the highway system. It includes construction of new roads and additions or improvements to existing roads. Rehabilitation is the process of restoring an existing road after the road condition has deteriorated over time since its construction or previous rehabilitation.

In each of the 1989/90 and 1990/91 fiscal years, the estimates of the Ministry of Transportation and Highways provided for it to spend more than $375 million for minor capital construction and rehabilitation projects. This is in addition to money that it planned to spend on major highway construction projects (Figure 2.10).

Highway maintenance expenditures of $318 million are anticipated for the 1990/91 fiscal year.

Previous Reviews by the Auditor General

In our 1989 Annual Report, we reviewed the ministry's progress in seven areas where the Commissioner expressed concerns. We concluded that the ministry had begun corrective action in each area, but we did not assess the appropriateness or completeness of those actions.

Last year we reviewed and reported what the ministry has done to ensure that it gets value for money spent on major highway construction projects. We concluded that the ministry had significantly improved the way it manages major highway construction projects since Commissioner MacKay reported his findings in 1987. We found that the ministry had developed an appropriate structure for managing major projects, and that it was able to document the scope of the projects it carries out. We did, however, express some reservations about the ministry's lack of resources to ensure

that its cost estimates were accurate, and about its process for reviewing the quality of purchased services, especially in areas where it has only recently started to buy services.

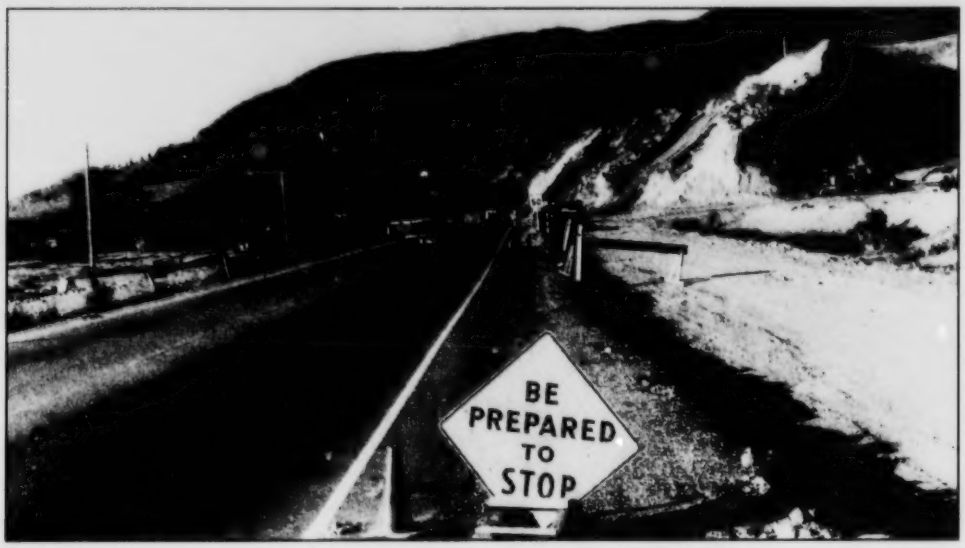
Project Management in the Ministry

The ministry has stated that it is committed to the concept of project management as a way to ensure that it obtains value for money spent to develop and maintain the transportation infrastructure of the province.

We found that the ministry has changed the way it manages highway construction and rehabilitation work. We also found that the ministry has made progress in implementing the principles of project management. However, we found it has been more successful in doing so for major projects than for minor capital and rehabilitation projects.

The report of the Commissioner of Inquiry reviewed the project management practices of the ministry prior to 1988. Although the review focused on major projects, many of the comments were directed at the ministry's management processes generally. The Commissioner had a number of specific recommendations for project management in the ministry:

- Project initiation should be based on a definitive scope statement.
- An accurate estimate should be made of all the costs of the entire project.
- Funding approvals should be based on, and limited by, the approved scope definition.
- A management structure should be set up to accommodate a project team approach for the project life cycle.
- Estimating capabilities should be enhanced.



- A comprehensive computerized project management system (including support for cost tracking, forecasting, and reporting) should be implemented.

In addition to assessing project management processes generally, we looked specifically at a number of the features that were identified by the Commissioner as essential to good project management. These included evidence that each project had been assigned to a single project manager, and documentation of the scope of each project (a description of the physical result expected, an estimate prepared in a manner consistent with ministry guidelines, and a schedule). As well we examined how project managers gather information about their projects (budget, expenditure, physical progress, emergent issues) and how they report their progress. We also looked for what we describe as quality assurance—what the ministry does to ensure that the goods and services it acquires meet its expectations and standards. Finally, we looked for a review at the end of a project that would enable the ministry to learn from its experiences.

Policies and Procedures

The Need for a Policy Framework

The ministry lacks a comprehensive, documented policy framework to provide guidance in a decentralized organization that has distributed responsibility and delegated authority.

The ministry has changed the way it does business. It has moved from being a provider of services to being a purchaser of services. It has transformed from an organization where control of design and construction was centralized to an organization that is almost entirely decentralized. In doing so, it has set aside a philosophical framework that evolved over decades, and picked up a different one. Consequently, many of the old policies and procedures are now obsolete. In some management areas, there is simply no policy guidance because none was required for those areas in the past.

Formal policy direction from the senior levels of the ministry is needed to facilitate the transition from the way things used to be to the way the ministry wants them to be. Policy provides the guidance that is essential if the ministry is to implement its new approach properly and consistently. The ministry has only recently begun to address this need.

During the time that our audit was being conducted, the ministry established a committee to develop policies and procedures for project management. We reviewed the results of their work, a draft policy and procedures manual. In many cases it formalizes policies and procedures that have been in place in the ministry for some time. In other cases it establishes requirements that are known to be important to the process of project management, but have not yet been integrated into the ministry's processes. We support this initiative and encourage further development of the manual.

Assignment of Responsibility for Project Management

The ministry identifies a single project manager for each project.

In past, the ministry has been organized on an activity or specialty basis. The approach to project management has been described as an "over the wall" approach: the planners planned a project and then tossed the results over the wall to the designers who created a design; they in turn tossed it over the wall to the construction branch who was responsible for the actual construction activities. When difficulties with designs were encountered, they were dealt with on an ad hoc basis. The result of this approach was that some projects were built the way the construction branch believed was appropriate rather than the way they had been designed. There was not always sufficient communication to ensure that the problems encountered in construction projects did not recur in subsequent projects.

In his report, Commissioner MacKay concluded that there was no "integrated management system for design, budget, construction, cost control and cost reporting of capital works."

The ministry has adopted and implemented the recommendation of Commissioner MacKay to ensure that, for each project, there is a single project manager who is involved in all aspects of the project from beginning to end and is responsible for ensuring that the project is completed according to ministry standards and within the approved budget allocation. To improve this process, we believe the ministry should ensure that the assignment is documented, and that it clearly establishes the nature of the accountability relationship between the project manager and senior ministry management.

Scope Definition

At the time of our audit, project files contained little documentation of project scope information in an easily identifiable format.

The scope of a project is a description of what the project is expected to produce, what it is expected to cost, and when it is expected to be completed. The definition or description of the scope of a project evolves over the life of the project. At the time the project is initially assigned to a project manager, the extent of scope definition is minimal. In most cases it consists of little more than a one or two sentence narrative that describe in general terms what the project will be. There is often a "ball park" estimate of what the project is expected to cost.

In past, the focus of project management in the ministry appears to have been to design and build a product reasonably quickly and economically, without particular reference to nominal scope, schedule, or budget. This reflects an attitude that the original budget and schedule were merely pro forma "guesstimates" rather than constraints in any real sense. Instead, works were carried out in a "program" context. The ministry

considered capital construction and rehabilitation (involving the development and improvement of the highway infrastructure) to be ongoing, such that work would be done where and when required, based on the availability of funds in the current fiscal period. The scope of work was effectively defined as what could be accomplished within the funding for the fiscal period. There was no attempt to determine what the physical limits or full cost of a project consisted of over several fiscal periods. It was simply not relevant. What was important was that the ministry did not spend more than it had available in any one year.

The Commissioner observed that there was no "formal decision-making process for progressive refinement of a project's cost, scope or schedule from initial assessment to completion." The Commissioner recommended that "the approval process for major projects require a statement of functional scope, a total project estimate of the most probable final cost, a project schedule with annual budget requirements and evidence of proper planning." He pointed out that without a scope statement there was no relevant basis for comparison of actual costs to estimates.

Many of the projects currently being done were started before 1988, when little effort was made to manage with a "project" focus. For projects started during the last two years, however, the ministry has paid more attention to controlling the scope and budget of any project. There is, however, no evidence of a formal definition and approval process, and there appears to be limited control over scope changes. The main formal control mechanism is the fiscal year budget allocation for each project.

The draft policy and procedure manual stipulates that, at the start of a project, the project manager will complete standard documentation that outlines the purpose and scope of the project, describes the schedule and budget, and is formally approved by a senior manager.

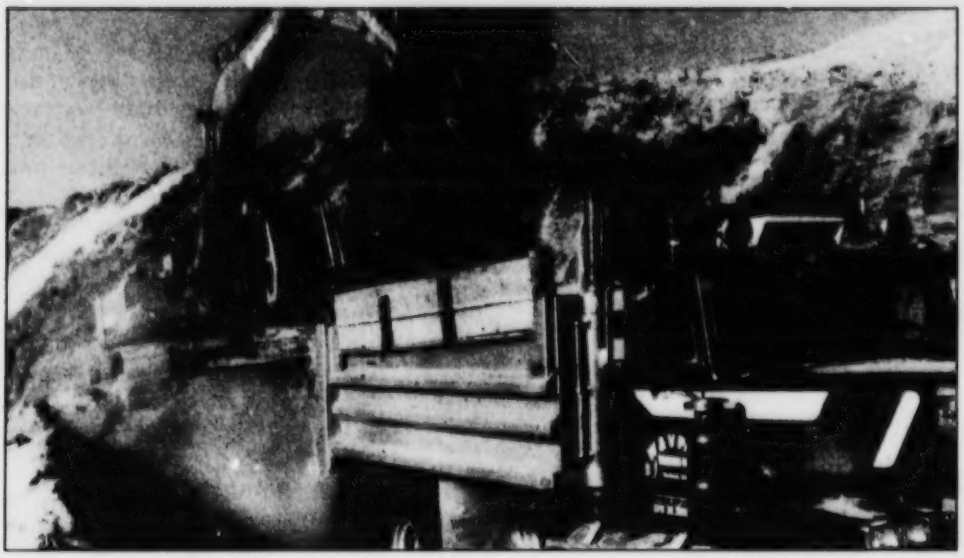
Personnel Resources

Because it lacks analytical methods to determine personnel resource requirements, the ministry has little assurance that its staffing levels are consistent with current and anticipated workloads. We are particularly concerned about project management and project information specialists, and planning and design quality assurance professionals.

Project Management and Project Information Specialists

There may be a lack of balance between the number and value of projects that the ministry wishes to pursue and the number and experience of project managers available to manage those projects.

Projects at the region level are managed primarily by project managers whose sole responsibility is project management. They are responsible for a number of projects. Many are concerned that, with the number of projects they are responsible for, they are not able to devote sufficient time and attention to any of them. These concerns are



being voiced consistently throughout the organization by both project managers and senior management.

At the district level, there are similar concerns. Many district projects are managed by area managers who are also responsible for monitoring maintenance contractors. These area managers feel that, while attempting to deal with both maintenance and capital projects, they are not able to do an adequate job of either. In the summer this is exacerbated when maintenance contractors begin reconstructive and preventative maintenance work which area managers must also monitor. Add to this the effects of vacation and other temporary absences, and the demands on area managers' time inhibit effective project management.

In some districts, area managers responsible for projects are assisted by area managers-in-training. In other districts, they are relieved of part of their maintenance monitoring responsibilities by other area managers taking on part of the workload. This, of course, adds to the already considerable workload of those other area managers.

All project managers carry a heavy workload. Many project managers are recording overtime almost every day, and many claim that they are not recording all the hours that they actually work. Many project managers say they do not have sufficient time to do as good a job as they would like to do. Administrative work is backlogged, responses to requests for information are delayed, formal reviews and reports are not being completed, and decision making is often based on need for an immediate answer rather than careful consideration of issues and alternatives. Project managers feel frustrated in their efforts to plan and manage rather than simply react.

There are currently no project information support services available in the region or district

offices. We believe the concerns expressed by project managers over administrative work not being done in a timely manner could be alleviated by such services, through support to do research, gather information, and prepare reports.

Quality Assurance

We are also concerned that the ministry may not have enough qualified and experienced planning and design specialists to ensure that the work of consultants meets the standards of the ministry.

In the past, most design work was either done or closely monitored by ministry staff. That has changed in recent years as the ministry has become more dependent on the services of private sector consultants. There is evidence that the private sector may have reached a point where it does not have the capacity to meet the needs of the ministry. In some cases, consultants have declined to offer their services on particular projects, stating that they do not have sufficient resources. In other cases, they have provided services apparently using less experienced staff than they might otherwise assign. This has resulted in considerable demands being placed on ministry staff responsible for ensuring that planning and design work done by contractors meets ministry standards.

Most planning, design, and similar engineering work is now being done by consultants. While the consultant is responsible for producing a professionally competent product, the ministry is responsible for ensuring that the consultant produces a product that meets the ministry's standards. It is not enough to rely on the fact that many of the consultants are licensed professionals or that they carry liability insurance. The ministry must ensure that potential problems are detected early enough so that corrections can be made before, rather than after, construction has begun.

Last year, in response to our report, the ministry stated that "principal accountability for professional services now falls to the private sector." However, the ministry also acknowledged it was "critically important to have its own representatives vet major design solutions at appropriate stages of each project."

We recommend that the ministry review its current level and mix of staffing to ensure that it has sufficient staff with appropriate knowledge and skills to review the work of consultants.

Information Systems

Management Systems

The ministry is not able to gather information efficiently or report on project progress in an accurate and timely manner.

To manage any project, information is required both by and from the project manager. The project manager uses this information to assess progress, support decision making, and facilitate control. Project managers need to know what has been accomplished, what remains to be accomplished, what resources have been consumed, and what resources

are available. They need to know, and be able to report, whether the project is "on time, on budget," and, if it is not, the nature and effect of any variance. Those who have assigned responsibility to the project manager require similar information to enable them to monitor progress and hold project managers accountable.

The information and reporting systems necessary to provide information to both the project manager and senior ministry managers are only now being developed. In some cases these systems have been under development for several years. Without better systems than currently exist, the ministry cannot be assured that project management is taking place in an environment of control and accountability.

In his report, Commissioner MacKay pointed out, "The Ministry's cost reporting system for capital works is fragmented and inconsistent. A system needs to be developed that gives timely and accurate information for management control and that reports overall costs against budgets for accountability." He recommended that "the Ministry develop a comprehensive capital cost management system to give timely and accurate information reporting both the total and annual costs of all capital works against estimated costs."

The ministry is now developing and implementing such a system. Of special interest to project managers is the Financial Management Information System and its Project Cost Tracking module that will provide complete and up-to-date financial information about all projects. Unfortunately, the implementation of the Project Cost Tracking module has suffered from delays and, to the time of our audit, the system had failed to produce any useful information for project managers. This has meant that the project managers have had to develop ad hoc cost tracking systems.

Estimating

Progress at developing and implementing an improved process for estimating the cost of capital and rehabilitation projects has occurred, but further progress is required.

Commissioner MacKay observed that "accurate estimates of costs are essential to good decision-making and any organization involved in the development, design and construction of capital works needs the capability to provide sound and accurate cost estimates." He also concluded that "estimating the cost of capital construction is not an exact science and depends heavily on the estimating procedures, on the quality of data available, and on the experience, training and judgement of the estimator." The ministry, he said, lacks a rigorous estimating procedure. "There is no estimating manual or set standards nor are there any formally kept statistics of past work or bid prices which are available throughout the organization." Commissioner MacKay stated that "the evidence is clear that the Ministry's estimating procedures are inadequate." He recommended that the ministry develop standard procedures for estimating the cost of capital works, as well as a data base of previous projects to use in cost estimating.

The ministry responded to these concerns by appointing a task force on estimating. This task force reported in 1988, and we observed last year that limited progress had been made in implementing its recommendations. The task force developed guidelines for better estimating and assembled data for bridge building and paving contracts, but we found it lacked easily accessible information about road construction costs. In response to our report last year, the ministry said that "increased priority will be given to development of a data base to enhance project estimating."

Since that time, the ministry has continued to develop its software and data base for estimating, but progress has been slow. The ministry hoped to have some part of its data base operating by April 1, 1990, and a complete system within a year after that. During our audit, the initial version of the estimating software was released for testing, and the data base was under development. A Post Implementation Review of the Project Cost Estimating System, done by the ministry in October 1990, indicated that the data base system is now in place. However, the system still lacks data, as well as enthusiasm on the part of users.

A number of outstanding issues must be addressed if the system is to meet its objectives. These issues include further development of systems, responsibility for maintenance of software, access to appropriate computer hardware, and use of the system by consultants.

Reporting

There is wide variation in the extent to which project managers document and report progress on minor capital and rehabilitation projects.

Commissioner MacKay found that "the ministry system for reporting the cost of capital projects in a timely and accurate way is at best fragmented and inconsistent."

Progress reporting for small projects managed in district offices may consist of nothing more than informal discussion during the course of the project. At some later date, the project manager confirms that the project has been completed within budget, or requests additional funding to complete the project. The dearth of information may be attributable to the fact that most district projects are relatively small and short-lived. The only matter perceived to require formal reporting is the adequacy of approved funding. That most district projects are managed by area managers, who are responsible for monitoring the maintenance contractors, also contributes to the limited formal progress reporting. Project managers do not prepare written reports unless there is a compelling reason to do so.

Reporting progress of projects managed through regional offices is not much different. Much of the reporting is done on an informal basis. However, most of the regional offices we visited during our audit said they held regular progress reporting meetings, usually on a weekly basis.

There is formal reporting on a monthly or bimonthly basis from regions to executive management in Victoria. These reports focus on financial information, in particular the ability of the regions to live within the current year's budget allocation. Written reports are supplemented with oral reports that outline physical progress, as well as problems and issues of potential interest to the executive and political levels of the ministry.

Many minor capital projects extend over several fiscal years and some involve tens of millions of dollars. Commissioner MacKay concluded that, for the ministry, "estimates of current annual expenditures are a high priority from a 'cash flow' standpoint" and that "estimates of total cost for multi-year capital works are a low priority."

During the last fiscal year, the ministry has begun to identify and present information regarding total costs over the life of a project. It is too early for us to comment on the extent to which the ministry will document and report the total cost of multi-year projects.

The draft policy and procedure manual advocates consistent reporting for all similar levels of ministry management throughout the province. The manual proposes standard content, format, and frequency for reporting. We believe these guidelines can help ensure that consistent quality of information is available to ministry executives.

Corporate Memory

The ministry does not have a consistent approach to the review and documentation of the results of projects.

An organization that does not review and learn from its past experiences risks repeating its failures

and failing to replicate its successes. In a decentralized organization, this means there must be an organized approach to structuring a corporate memory. We believe that the ministry can learn systematically from experience by keeping large amounts of information, organized so that it can be found easily many years after a project is completed.

The ministry indicated that it intended to review each large project on completion to discuss and document the lessons learned. The draft policy and procedures manual indicates that at the completion of a project, a "Close-out Report" will be prepared by the project manager. This report will compare the project, as finally delivered, to the scope as originally stated. It will assess "the success, or otherwise, of the completed project in its achievement of the objectives [as initially stated]"; and will review the history and variations of schedule and budget, explaining any significant differences. We support this as a useful step toward a broader corporate memory system.

Many project managers we talked to supported the idea of a post-project review. However, few had actually done one, and even fewer had documented their findings or communicated them to others.

Looking Ahead

The ministry has accepted the principles of project management recommended by Commissioner MacKay, and adopted many of his recommendations on how to manage construction projects.

However, during the past two years, the ministry has emphasized the development of its management of major capital projects and of privatized maintenance. These may have been the correct priorities, but we believe this focus has resulted in slower development of the management of minor capital and rehabilitation projects than might otherwise have been the case.

If the ministry is to ensure that the money it spends for minor capital and rehabilitation produces value for money, it must further refine the application of project management principles to these projects.

Response of the Ministry of Transportation and Highways

Highway Planning

The Ministry acknowledges the assessment of the audit report on Highway Planning. The report provides a fair critique of how the Ministry plans and budgets for highway construction with respect to achieving good value for money.

The Ministry is appreciative that the audit places the assessment in a time sequence showing the progress achieved by recent efforts. It is particularly gratifying that the audit concluded the Ministry organizational changes and the strengthening of the planning resources has resulted in the Ministry being much better prepared to do the planning that will lead to better value for money.

The audit report states that the Freedom to Move plan was prepared in a short time period. The Ministry acknowledges that considerable technical study is required to properly scope, cost and priorize the long list of proposed projects. While this work is being carried out for all regions of the Province, it is appropriate to note that a comprehensive, multi modal, multi jurisdictional transportation planning process has been launched in the Lower Mainland to develop a transportation plan and priorize projects for that complex region.

The audit report argues that the best value for money is a choice of quality that minimizes the life-time costs of the road. The Ministry shares this view and recognizes the importance of cost estimating to assist in developing the information necessary to make good value-for-money decisions. This concern for minimizing life-time costs is being integrated into our planning, design, construction, and maintenance decisions. The "Good Roads Cost Less" principles that guide our pavement rehabilitation program are excellent examples of such considerations.

Protecting Roads and Bridges

This audit has provided an assessment of the Ministry's programs for protecting the roads and bridges for the period of May to October, 1990. It is a snapshot, in time, of programs which were in a process of change. The Ministry has made, and is continuing to make, improvements to the programs which address most of the concerns of the audit.

The report is divided into four sections. The Ministry responds to each section as follows:

Maintaining Roads and Bridges

The Ministry is pleased that the audit confirmed that the Maintenance standards for roads are comprehensive and among the best available. We agree with the report's observation that the standards for bridge maintenance need refinement and, indeed, they have been refined for the new contracts being tendered this year.

Protecting at the Least Lifetime Cost

The Auditors are concerned that the Ministry under its present contracting

arrangement for Road and Bridge Maintenance does not have enough costing information on which to make good decisions.

The Ministry disagrees with this conclusion. Under the Maintenance contract, the work to be done is divided into two categories: (a) routine maintenance and (b) annual plan maintenance. Routine maintenance addresses the day to day repairing of roads and bridges and the contractor is required to carry out whatever amount of work needed to meet the standards. Examples include, snow plowing and pot hole patching. The annual plan maintenance covers works that need doing annually and can be easily measured such as, replacing culverts and roadside brushing.

The contract limits the quantity of these activities that a contractor must carry-out and requires him to submit a unit price for each of the activities. While the lump sum for the contract includes the annual plan, the unit price provided does allow the Ministry to adjust between the various activities to meet changing demands, and gives it good costs for each of the activities. The routine maintenance activities which have to be done to the standards can be costed on a total dollars per kiiometer basis, which we believe is adequate for decision making.

The report recognizes the Ministry's overall effort to improve its planning and budgeting for road rehabilitation, by referencing the "Good Roads Cost Less" study. It is concerned, however, that the ranking of rehabilitation priorities is based on the subjective evaluation of road conditions, and not on the systematic collection of objective information. While the Ministry agrees with this observation and is in the process of developing a pavement management program which will provide that objective information, we are confident that the presently set priorities are the right ones.

The audit report contains some useful observations on the bridge inspection program which we will follow up on.

The report expresses concern over the Ministry's cost estimating on rehabilitation projects. This is an area in which the Ministry has been continuing to improve through the establishment of a estimating database and better financial reporting procedures. We will be introducing a comprehensive Project Management policy and procedure for the 1991/92 program which will further address this concern.

Regulation of Commercial Traffic

As an addendum to this report, the Auditors make some comments on the regulation of weights for commercial vehicles and the effects of overweights on the highway infrastructure. The Ministry is aware of these effects and continues to deal with the Ministry of Solicitor General on the issue. The Ministries are currently working on an initiative that would tie the level of fine for overweight vehicles to the damage done to the highway system. We believe that this will greatly reduce the number of overweight vehicles.

Monitoring of Maintenance Contractors

Audit Purpose

The Audit Report has provided a fair assessment of the Ministry's Program for monitoring Maintenance Contracts. We

are pleased with their confirmation that the Quality Assurance Program provides a reasonable approach to measuring contractor compliance. As noted below, we take issue with that portion of the Overall Conclusion dealing with our understanding of contractor performance. We have the following specific comments with respect to the report:

Monitoring Performance

The Ministry recognized at the time of the audit that we were not performing all of the inspections required by the Quality Assurance Program. We can confirm that all concerns expressed regarding Present State Inspections have either been addressed since the Audit, or will be included in the improvement to the Quality Assurance Program for the second round of contracts. With improvements to the contract language and the Quality Assurance Program, the in-process and end-product inspections will be performed to the required level in the second round.

The audit refers to the need to assess the adequacy of staff levels. We have already undertaken a study examining this issue and have determined that more resources are required and will be applying them in the next fiscal year. The Ministry will be including in the next contracts a requirement for a comprehensive business plan which will form the basis for an objective review of a contractor's management practices. We believe this will address the audits concern for a more objective measurement of the contractor's ability to manage.

Evaluating Performance

The audit report indicates that the Quality Assurance report at the time of the audit indicated that ten contractors were not meeting their obligations. The reports on which this observation was made should be considered as exception reports only, which provided a list of contractors to scrutinize in more detail. When the Ministry undertook this latter process, it found that four contractors were not performing to standard and appropriate action was taken including, the dismissal of one contractor.

Understanding Performance

The audit expresses some concern that the Ministry does not have adequate information from the Work Reporting System to understand more fully the performance of its contractors. The Ministry is of the view that a fully applied Quality Assurance Program will effectively monitor performance. Any deficiency in performance, is the responsibility of the contractor to address, as it is the contractor, not the Ministry, who manages the resources to accomplish the work.

Minor Capital Construction and Rehabilitation Projects

The audit report has provided a fair assessment of the status of minor capital and rehabilitation project management in the Ministry. As the report has indicated, the Ministry has undergone many changes in the last few years. The Executive realized that not all issues requiring attention could be accomplished at once and hence, priorities had to be established. Among those which received immediate attention were overall organization development and staffing, major projects management, transportation planning and the management of roads and bridge maintenance. Within this context, the Executive chose to have the Ministry's regional organization stabilize before

establishing project management policy and procedure for the decentralized programs. We are pleased to report that complete policies and procedures have now been developed and will be implemented in the 1991/92 fiscal year for all minor capital and rehabilitation projects. We believe this will address most of the concerns raised in the audit. We will review the audit's recommendation on the resourcing of project management and technical services to ensure that an appropriate level of staffing is in place.

Looking Ahead

At the beginning of our response, we characterized the report as a snapshot in time. We believe that we have already made significant moves to address the Auditor General's concerns since the audit was done. We also believe that the pavement management program and the project management policy and procedure will go a long way to enhancing the Ministry's performance. We will review the bridge inspection system to see if it meets the criteria of the bridge management program suggested by the audit.

Updated Responses to Preceding Year's Value-for-Money Audits

The following written comments were received in reply to our invitation to publish further updates from the ministries that were the subject of value-for-money audits last year.

Ministry of Transportation and Highways

Road and Bridge Maintenance

Standards for Managerial Control

The Ministry has requested management plans from several contractors during the past year. The new contract for the next series of road and bridge contracting has incorporated a business and operations plan into it.

Maintenance Standards vs Road Safety

The Ministry is very conscious of the need to ensure that minimum standards of maintenance are effected. The monitoring of contractor performance has been increased in this area and several notices to comply have been issued.

All the standards have been reviewed and enhanced where needed to better ensure a safe road for the travelling public.

Evaluating Contractor Performance

A constant improvement to the uniformity of quality assurance inspections has been achieved by the Area Managers. More informative and timely reports have been produced. The Quality Assurance Program has been reviewed by Ministry and industry advisors and improvements developed for the next series of contracts.

Gravel Management

The Ministry has defined the system requirements for a Province wide gravel management system and development work on the necessary programming has begun. A regional position has been identified to coordinate all gravel management issues in each region. The Ministry has participated on the Gravel Resource Task Force established by the Ministry of Mines, Energy and Petroleum Resources.

A procedure was instituted to account for gravel usage and contract off sets. In addition, an approved method of licencing gravel pits to future Road and Bridge Maintenance contractors has been developed.

Buying Signs

The Tran Sign Ltd. company has experienced some management problems during the past year and the Ministry has had to meet with the company on several occasions.

A monthly reporting procedure has been implemented to better monitor the ordering of signs, both by the Maintenance contractors and the Ministry crews.

The Ministry is still having difficulty purchasing the minimum requirement of signs but the contract has been amended to allow future utilization of the under ordered signage.

Several tests of materials utilized by Tran Sign Ltd. have been performed by the Ministry's Geotechnical and Materials Engineering branch.

Services, Facilities and Attraction Signs

The Ministry amended the policy in 1990 to better service remote communities with more informative advance signing. A plan was developed to remove most of the illegal signs through a process of advisement and persuasion to remove.

Development Approvals

The audit report shows a good understanding of the development approvals process and gives fair assessment of the Ministry's performance in the area. It will be of great help to the Ministry in its continuing effort to improve its level of service.

The report refers to four areas which require strengthening. The Ministry agrees and is taking the following actions:

Uniform Decision Making

The Ministry is presently rewriting its policy on development approvals to bring more clarity to it. This policy will be made available to the development community so that there will be no mystery as to what the rules are. It is also actively considering having Approving Officers' decisions reviewed by their peers on a random basis.

Independent Appeal Process

The report points out that there is a Ministry appeal process through the management hierarchy. However, in view of the audit comments, consideration will be given to develop a more independent review process. The Ministry will be investigating models of appeal processes used elsewhere in Government.

More Checking of Complex Applications

The Ministry will endeavour to include in its new policy procedures which bring about the checking that is suggested by the report.

Improve Timeliness of Service

As the audit recognized, the Ministry has been taking steps to improve the development approvals process. It also recognized that the level of service provided by the Ministry was generally more prompt than that provided by municipalities. Time standards for each area of approval have been set and these are now measured and audited to encourage good performance. A comprehensive file logging and tracking computer based system is also being implemented in all 28 district offices. It will not only improve timeliness of service, it will assist in and provide conformity in checking applications.

Annual Report

The Ministry is pleased to have the opportunity to comment further on steps being taken to improve the quality of the Annual Reports of the Ministry of

Transportation and Highways pursuant to the critique by the Auditor General published in his 1989/90 Annual Report.

Following the recommendations of the Auditor General, we have taken significant steps in two areas in the preparation of the Ministry's 1989/90 Annual Report.

1) *With few exceptions we have adopted a program approach to reporting the Ministry's activities. Only those parts of the Ministry's operations which can be most appropriately reported on a departmental basis will be reported in this way, and we are confident this will contribute significantly to both the understandability and utility of the latest report.*

2) *Every effort has been made to simplify the writing of the report to minimize the use of technical terms, and to explain them as necessary. Much of the information in the report is of a technical nature, however, we have taken steps to ensure a level of understandability appropriate for a non-technical audience.*

Major Projects

The Auditor General's report of March 1990 focused on a number or criteria related to the management of major projects. In response, this Ministry made a commitment to improve on our practices with respect to cost estimating, project control, and quality control. Initiatives continue in each of these areas of project management, as follows:

Cost Estimating

Significant progress has been realized by the Ministry in developing and implementing a cost estimating database. "Release One" of a DBase IV program was issued throughout the Ministry in 1990. The program defines standard Units of Measure applicable to Grading and Paving work, and is intended to serve as a centralized source for current unit prices based upon construction contract bids received by the Ministry. Efforts continue within the Ministry to expand the scope of the database.

Project Control

In June 1990, the Major Projects Branch filled two newly-created Project Management positions. The Senior Manager, Major Projects reports directly to the Assistant Deputy Minister, Planning and Major Projects, and provides Project Management expertise to the Major Project Directors. One of the mandates of the Senior Manager is the development of a Project Management Manual, intended to standardize effective Project Control (scope, schedule, budget and reporting) practices for Major Capital Projects. The manual is schedules for completion in Spring 1991.

Additionally the Ministry shall benefit from the expertise brought to Major Projects by contracted consultants (e.g. Fenco Lavalin - Cassiar Connector Project, and UMA Spantec - Vancouver Island Highway Project). A significant contribution to the Ministry's Project Management Manual can be expected from UMA Spantec's "Vancouver Island Highway Project Implementation Plan."

Quality Control

The Ministry recognizes the importance of having its own representatives vet major design solutions at appropriate stages in each project, to ensure effective quality control. This has led to the development of a formalized engineering review and approval process. Key design milestones have been defined,

and the roles of the various branches and departments within the Ministry in approving the successful attainment of those milestones have been clarified. The resultant document, "Engineering Process - General Milestone Requirements for Major Projects" is currently under review within the Ministry, and shall be incorporated in the Project Management Manual this year.

Ministry of Environment

The Ministry has thoroughly reviewed the comments of the Auditor-General and can report that the following actions have been taken:

Quality Assurance:

- *Zenon has been required to participate in Environment Canada's Interlab program;*
- *Zenon has been required to and has effected strict improvements to their quality assurance program. For example, Zenon has undertaken the implementation of additional quality assurance procedures in response to Ministry system audits and blind audit results;*
- *The Ministry has repealed the former B.C. Research Regulation and replaced it with the new Environmental Data Quality Assurance Regulation effective August 31, 1990;*
- *B.C. Research's role in quality control and assurance has now been clearly defined by the Ministry of Environment through the development and implementation of detailed work plans;*
- *The Ministry has now documented its Environmental Data Quality Assurance Plan which outlines procedures to be used in achieving quality assurance targets. Senior management of the Ministry, including the senior quality assurance officer concur with this plan;*
- *Zenon and B.C. Research analytical procedures have been amended to conform with the Ministry's quality assurance requirements;*
- *The numbers of audit and blind reference samples delivered to Zenon have been increased significantly;*
- *A consultant has been retained to assist with the implementation of the Environmental Data Quality Assurance Regulation;*
- *The Ministry has initiated system audits for both Zenon and B.C. Research. A proposal for monthly audits is now under discussion;*
- *The National Water Research Institute has started to provide the Ministry with reference standards for quality control and blind audits on a fee for service basis;*
- *The Ministry has accepted administration of split sampling from B.C. Research;*

- *The Ministry has developed plans for corrective action where variances from acceptable quality control and quality assurance standards have been detected. These procedures will be activated when problems are identified in blind, system and Interlab audits; and,*

- *The Ministry has established the Program Planning and Evaluation Branch in Victoria which will assume the duties of the former Data Standards Group. Staff will be in frequent communication with regional personnel to ensure that Zenon complies with its quality assurance standards. The position of Director for the Branch was filled effective February 4, 1991.*

Cost Effectiveness:

The Ministry has undertaken a number of actions to increase the overall efficiency and effectiveness concerning the management of the Zenon contract. In this regard, the Ministry has:

- *centralized invoice verification and contract documentation within the Environmental Protection Division;*

- *implemented accurate financial account verification;*

- *reduced the target frequency for air audits from five to four per year. The integrity of quality assurance targets will still be maintained but will result in cost savings;*

- *established dates for the performance of time sensitive analyses which are reflected in current contract amendments; and,*

- *ensured that amounts paid to Zenon for services received are properly reflected in invoices received. Complete account verification has been documented for the term April 1990 to September 1990. This resulted in the non-payment of some charges.*

Other actions which have been undertaken are as follows:

- *An interim unit pricing agreement has been negotiated with B.C. Research for the period August 15, 1990, to March 31, 1991; prior to this period services provided were charged on a cost plus expenses basis. The Ministry is currently in the process of negotiating a final unit pricing contract with B.C. Research. Unit pricing is expected to reduce the ministry's vulnerability to cost overruns and should provide an incentive for B.C. Research to operate at maximum efficiency;*

- *The Ministry has negotiated an agreement with Zenon to recover "adjustment payments" of $180,000. Recoveries will be realized, over the balance of the Zenon contract, through an increased discount in 1990 for services performed over and above the minimum annual contract amount of $2.8 million and through a reduction to the contract's annual consumer price index adjustment;*

- *The Manager, Finance and Administration, for the Environmental Protection Division has been appointed Contract Administrator of the Zenon Contract effective December 1990. In addition a joint Ministry/Zenon committee has been struck to resolve issues arising from the operation and interpretation of the Zenon contract;*

- *The nature and acceptability of Zenon charges has been settled by agreement*

as to prices on December 18, 1990. Preparation of legal documentation is under way;

- *Zenon and the Ministry have also agreed to the elimination of special charges effective December 18, 1990; and*

- *Coopers and Lybrand have been retained to perform an audit of Zenon operations and billing procedures for the period January 6, 1989 through to November 30, 1990. This audit is currently in progress;*

In addition, the following projects will be initiated in the near future:

- *An evaluation of the 1990 Zenon and B.C. Research Quality Control Programs; and*

- *Regional training workshops will be implemented in 1991. Environmental Protection Division regional staff will be advised of correct Zenon account verification procedures and appropriate data evaluation processes for quality assurance purposes.*

The Ministry is committed to implementing the operational recommendations contained in the Auditor-General's review of the relationship between Zenon Environmental Inc. and the Ministry of Environment. The Ministry will continue to ensure that both quality control and cost effectiveness remain tenets of the Ministry's relationship with Zenon.

Part III: Compliance, Control, and Accountability Audits

Part III: Compliance, Control, and Accountability Audits

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Compliance, Control, and Accountability Audits

In addition to the financial and value-for-money audits commented on earlier in this report, we have undertaken several other specific studies of government operations to assess whether:

- legislative and other authorities have been complied with;
- systems of internal control have been established and are operating to achieve their intended purposes; and
- appropriate means have been developed and employed to provide accountability for government activities.

This part of our Annual Report contains our observations, assessments, and recommendations on the audits of this nature that we carried out during the past year.

Further details on the purpose of these audits, and the processes followed in their conduct, appear in Appendix C of this report.

Compliance with the Financial Information Act, Regulation, and Directive

An assessment of compliance with the disclosure requirements of the Financial Information Act.

Introduction

In recent annual reports, we have commented on the significance of public bodies and the importance of their public accountability. Billions of dollars of public funds are annually managed by the province's government corporations, associations, boards, commissions, societies, and other public bodies. Therefore, it is important to have instruments or processes by which these organizations are held accountable for the public resources entrusted to them.

The *Financial Information Act*, the *Financial Information Regulation*, and the *Minister of Finance and Corporate Relations Directive* set out certain requirements for public body financial accountability information. These instruments identify the organizations that have to provide the information, the content of the Statement of Financial Information that has to be prepared, the timing of its availability, and the means by which the public can obtain the information.

The *Financial Information Act* (the Act) identifies the organizations which have to prepare financial information and make it available to the public within six months after the end of their fiscal years. There are currently over 700 organizations required to provide this information, including colleges, universities, institutes, school districts, hospital societies, municipalities, regional districts, Crown corporations, associations, boards, commissions, and societies.

The Act also specifies the statements and schedules to be included in the Statement of Financial Information. More specifically, it requires a set of financial statements and four schedules disclosing debt, guarantee and indemnity agreements, remuneration paid to employees, and amounts paid to suppliers of goods and services.

The *Financial Information Regulation* (the Regulation) specifies the more detailed content requirements for these statements and schedules, such as:

- The financial statements should have notes disclosing the accounting policies followed and whether the accounts are kept on a cash or accrual basis.
- The schedule of debts should list all of the organization's long-term debts, giving the amount outstanding, the interest rate, and the maturity date for each debt.

- The schedule of guarantee and indemnity agreements should provide names of entities and amounts involved, if known.

- The schedule of remuneration should include the remuneration and expenses for each employee earning more than $5,000 annually, and a lump sum total of the employer portion of CPP and UIC payments.

- The schedule of payments for goods and services should include an alphabetical list of suppliers paid in excess of $5,000.

The *Minister of Finance and Corporate Relations Directive* (the Directive) provides for the form and manner of providing public access to financial information held by the government and any corporation. It requires the ministries responsible to provide all necessary administrative support and liaison between the organizations and the government. The Directive also requires that the financial statements and schedules be approved by the board of management of the organization and, for a municipality, certified by the treasurer. In addition, the financial statements must have either an auditor's report or a review engagement report included with them.

Audit Objective

We conducted this audit to assess whether the *Financial Information Act*, its Regulation, and Directive have been complied with, in all significant respects, by those organizations subject to them, during the 1990 calendar year.

Scope of the Audit

We reviewed Schedules 1 and 2 of the *Financial Information Act* to find out which organizations are required to provide Statements of Financial Information.

We then selected a sample of over 100 of the more than 700 organizations subject to the requirements of the Act. By using information mainly obtainable at the offices of the ministries responsible, we examined their Statements of Financial Information to assess whether they complied with the content requirements of the Act, Regulation, and Directive.

We also went to the main offices of 50 of the organizations and requested the Statements of Financial Information. We presented ourselves as members of the general public, and not as representatives of the Office of the Auditor General, to get a realistic view of how successful a member of the public might be at obtaining the information.

Our audit was conducted during the months of December 1990 to February 1991.

Overall Assessment

Our overall assessment was that, except for the issues included in the observations below, most organizations complied, in all significant respects, with the requirements of the *Financial Information Act*, its Regulation, and Directive during the 1990 calendar year.

Observations of Significance

Preparation of Statements of Financial Information

The *Financial Information Act*, section 2 (1), requires an organization that is subject to either Schedule 1 or 2 of the Act to prepare a Statement of Financial Information within six months after the end of its fiscal year. Certain of the organizations subject to the Act's Schedule 1 or 2 have not been preparing the required information.

- Improvement districts are organizations that should comply, by virtue of the Act's reference in Schedule 1 to the *"Municipal Act, sections 854, 855 and 856."* There are approximately 310 improvement districts in the province.

  Officials for the ministry responsible advised us that only a very small proportion of these districts complete Statements of Financial Information, and the ministry does not attempt to ensure their compliance with the Act. The ministry officials indicated that, because of the small size of individual improvement districts, the volunteer nature of the majority of the people involved with them, the districts' lack of administrative and financial resources, and the fact that not all of these organizations have debt guaranteed by the government, they do not believe the improvement districts should be required to comply with the *Financial Information Act*.

  The *Minister of Finance and Corporate Relations Directive* provides a means by which deletions from the Act's schedules may be requested. Section 2.2 of the Directive states that, "Ministries wishing to add to or delete from Schedules 1 and 2 of the statute shall direct all requests through the Minister of Finance and Corporate Relations."

  Currently, because this large group of improvement districts is not complying with the *Financial Information Act*, non-compliance with the Act is extensive.

- Several organizations subject to the Act's Schedule 1 or 2 have become relatively inactive (e.g., British Columbia Enterprise Corporation, Expo 86 Corporation, Metro Transit Operating Company), and are not producing Statements of Financial Information. However, this creates uncertainty about whether the organizations are inactive, winding up, or just not complying with the Act. These organizations should comply with the requirements of the Act.

- Some organizations that are subject to the Act did not provide, as part of their Statements of Financial Information, schedules required by the Act.

Availability to the Public of Statements of Financial Information

The *Financial Information Act*, section 2 (4), requires organizations subject to the Act to make their Statements of Financial Information available to members of the public on payment of a prescribed fee. The current fee is $5.00.

At the main offices of the 50 organizations we visited, we requested the information which is supposed to be made available to the public. We found that 7 of these organizations would not provide us with the required financial statements, and 20 did not provide financial schedules specified in the Act.

The reasons given for not making the information available to us, as representatives of the public, varied considerably and seemed to stem from officials of the organizations not fully understanding the requirements and purpose of the Act.

Some of the reasons given to us were:

> "The information is not published for the public; it is given to the province for statistical reference."
>
> "The schedule has personal names on it and therefore cannot be given to the public."
>
> "No extra copies were available for sale, but it could be viewed in the library."
>
> "The reports are too large to photocopy; the information is public from the ministry but not from the organization."
>
> "Nothing of this sort is prepared annually."

Those organizations that did not provide the required statements and schedules have not complied with one of the most important requirements of the *Financial Information Act*.

Content of Statements of Financial Information

The *Financial Information Regulation* specifies certain detailed content requirements for the Statements of Financial Information.

We found that, in the Statements of Financial Information we examined, a large proportion did not include the following required information:

- a financial statement note disclosing whether the accounts were kept on a cash or accrual basis; and
- a lump sum total of the employer portion of CPP and UIC payments in the Schedule of Remuneration.

We also found that many of the Schedules of Remuneration that we examined did not include the required total amount of expenses paid to or on behalf of employees who are individually listed in the schedules.

Approval of Statements of Financial Information

The *Minister of Finance and Corporate Relations Directive* requires that financial information statements and schedules required under the Act be approved by the board of management and, in the case of a municipality, be certified by the treasurer of the municipality.

We found that, for a great many of the schedules included in the Statements of Financial Information we examined, it was not evident whether they had been approved by the board of management and, for municipalities, by the treasurer.

This form of approval is important, because it provides assurance to members of the public that the information in the schedules is reliable.

Comments on Applicability of the Act to Other Organizations

Our audit did not attempt to identify other organizations that might appropriately be subject to the requirements of the Act. However, the following matters came to our attention during the course of this audit.

- The Act defines a corporation as "a corporation, association, board, commission or society to which a grant or advance may be made, or the borrowings of which may be guaranteed by the government, under the authority of the enactments in Schedule 1." Corporations so identified have to prepare a Statement of Financial Information. Schedule 1 includes the *Workers Compensation Act*, which does not contain any sections that would cause the Workers' Compensation Board to be included within the above-noted definition. Therefore, the board does not technically have to comply with the requirements of the Act. However, the fact that the board's Act was listed in Schedule 1 would indicate that there may have been an intention to have the board comply. This intent could be clarified by either adding the Workers' Compensation Board to Schedule 2 of the Act or deleting reference to the *Workers Compensation Act* from Schedule 1.

- The government currently reproduces in the annual Public Accounts the financial statements of all organizations which it includes in its Consolidated Financial Statements. Most of these organizations are currently required to comply with the disclosure requirements of the *Financial Information Act*. It would seem appropriate to require the remaining organizations to also be subject to the requirements of the Act.

Response of the Ministry of Finance and Corporate Relations: Office of the Comptroller General

The government recognizes the significance of public bodies in the management of public funds and the resulting need for public accountability. The contribution made by the Auditor General in assessing the effectiveness of the Financial Information Act in providing that public accountability is appreciated by both this Office and those ministries responsible for the corporations reporting to them under this Act.

With respect to the specific issues raised by the Auditor General, we offer the following comments:

Preparation of Statements of Financial Information:

- *The Financial Information Act came into force in 1987, replacing the original Financial Information Act of 1961. The new Act modernized the old Act in a number of ways, including an administrative mechanism for adding corporations to the Schedules of reporting bodies, without legislative amendment. Deletions of corporations from the Act, however, remained the prerogative of the Legislative Assembly. The process to remove corporations is therefore a longer and more involved process. This process is not initiated until corporations are not only inactive, but also legally wound up.*

  We recognize that several corporations listed in Schedule 2 of the Act are no longer active. Once these corporations are no longer legal entities, a legislative amendment will be put forward.

- *Discussions have taken place between the Ministry of Municipal Affairs, Recreation and Culture and this ministry with regard to the benefits of having Improvement Districts report under this Act. The ministry has indicated that they intend to request a change to the legislation that would eliminate the requirement for Improvement Districts to report under this Act.*

Availability to the Public:

We acknowledge the difficulty that a person may initially encounter in obtaining information, particularly if the request was made of clerical staff. Not all staff within an organization will be aware of this legislation or their responsibilities under this Act, as many of these organizations have reported under this legislation for less than three years. We anticipate that staff within these corporations will become more familiar with the legal requirement to provide this information as time progresses.

Content of Statements of Financial Information:

- *The Financial Information Act requires that the statement of assets and liabilities be prepared in accordance with generally accepted accounting principles or stated accounting policies, and include notes to the financial statements which disclose whether the accounts are kept on the cash or accrual basis.*

  Although many corporations do not specifically state whether or not they use the cash or accrual basis of accounting, they do state the principles by which their accounts are

prepared. These principles would outline this information. In our opinion, these corporations are satisfying the spirit and intent of the legislation.

- *We acknowledge that some corporations have not provided financial information strictly in accordance with the requirements of the Financial Information Regulation. We anticipate that continued improvements in reporting systems will improve compliance in this respect.*

Approval of Statements of Financial Information:

The audit report expresses concern over the lack of evidence of approval by the board of management of the schedules included in the Statements of Financial Information. Although boards and, in most cases their auditors, approve the financial statements, approval of the attached schedules is not explicitly stated. We acknowledge that this approval would provide added assurance to the public that the information contained in the schedules is reliable.

Applicability of the Act to Other Organizations:

- *Discussions took place in 1990 between the Ministry of Finance and Corporate Relations and the Ministry of Labour and Consumer Services with regard to the Workers' Compensation Board and the requirement to report under this Act. It was agreed at that time that a request for a legislative amendment would be made to remove the Workers Compensation Act from Schedule 1 of the Financial Information Act.*

- *A review of government corporations reporting under this Act was undertaken recently to determine whether or not all public bodies which are consolidated should also report under the Financial Information Act. It was determined that although the criteria used in assessing whether or not an entity should report under this Act are similar to those used for consolidation purposes, there are differences which will necessarily result in lack of uniformity. The Minister of Finance and Corporate Relations will continue to make his decision to add a corporation to the schedules of reporting entities after careful consideration of the value of making this information publicly available and the effect on the entity.*

Compliance with Part IV of the Financial Administration Act and its Related Regulations

An assessment of compliance with the expenditure provisions of the Financial Administration Act

Introduction

The *Financial Administration Act* (the Act) provides the basis for a high standard of management and control of the billions of dollars that the government annually administers on behalf of British Columbians.

The short title for Part IV of the Act is "Expenditure". This Part includes rules, enabling legislation, and other provisions relating to a wide variety of expenditure-related subjects. Some of the many topics covered by Part IV of the Act are:

- payments out of the Consolidated Revenue Fund;
- trust funds;
- estimates and votes;
- special warrants;
- payments contingent upon receipts from others;
- payments after the end of the fiscal year;
- Treasury Board powers to establish regulations for expenditure;
- agreements, contract performance, related payments, and holdbacks;
- insurance and risk management;
- payment requests and authorization;
- records of commitments;
- advance payments; and
- Comptroller General monitoring and reporting.

Audit Objective

We conducted this audit to assess whether the government has, in all significant respects, complied with the legislative requirements of Part IV of the *Financial Administration Act* and its related Regulations.

Scope of the Audit

We carried out our audit during the months of December 1990 to February 1991. Our examination was carried out in accordance with generally accepted auditing standards andaccordingly included such tests and other procedures as were considered necessary. The audit checked for compliance with the specific requirements of Part IV of the Act, made up of sections 18 to 35, and related Regulations numbered 14/82, 215/83, and 323/85, during the six-

month period ended September 30, 1990.

The requirements of the Act and its related Regulations are varied and extensive. Therefore, to assess the government's level of compliance with these legislative requirements, we examined a number of amounts paid out of the Consolidated Revenue Fund during the audited period. We also analyzed a variety of financial data, extended our examination into certain supporting systems, and obtained documented assurances from senior management about their responsibilities for compliance with Part IV of the Act and its related Regulations.

In making our assessment, we considered the following factors:

- the role of the officials and organizations specified by the Act as being accountable for certain actions (e.g., Minister of Finance, Treasury Board, Comptroller General);
- the major financial activities governed by the Act (e.g., contracts, grants);
- the public documents affected by the Act (e.g., Public Accounts, Estimates); and
- the materiality of dollar amounts involved.

It should be noted that the administrative office of the Legislative Assembly is not bound by the requirements of the Act.

Overall Assessment

Our overall assessment was that, except for the effects of the observations reported below, the government, in all significant respects, complied with the legislative requirements of Part IV of the *Financial Administration Act* and its related Regulations during the six months ended September 30, 1990.

Observations of Significance

1. Section 20(2) of the *Financial Administration Act* states:

> No sum appropriated by a *Supply Act* shall be paid and applied to any purposes other than those described in the estimates of revenue and expenditure, or in excess of the amounts contained in the estimates of revenue and expenditure.

a) In April 1990, a payment was made to British Columbia Transit in the amount of $2.4 million for the Sky Train Guideway Capital Project and was charged to Vote 67. We also found that at least $17 million of other capital expenditures had been charged to that vote during the first three months of the 1990/91 fiscal year.

The stated purposes of Vote 67 are to provide for the administration, operation, and delivery of ministry programs.

These include expenditures made for administrative and support services, operating contributions to British Columbia Railway Company, British Columbia Ferry Corporation, and British Columbia Transit, and highway maintenance and rehabilitation. These purposes do not include capital expenditures for the province's transportation systems which, in accordance with the *Transportation Capital Funding Act, 1990*, are to be made from the Freedom to Move Special Account (funded by another vote).

The above-noted payments, therefore, should not have been charged to Vote 67. By doing so, section 20(2) of the Act was not complied with to a significant extent.

The ministry involved indicated that this situation was caused by incorrect payment coding, and advised us that the error was corrected. However, these multi-million dollar incorrect charges to Vote 67 had not been removed from that vote, in the accounts and records of the government, at the time of our audit in February 1991.

b) An amount of $1.6 million, representing the cost of acquiring Wallace Island in the southern Gulf Islands, was charged to Vote 53 and classified as "professional services" in the accounts of the government.

Two other items were also charged to this vote. One was a payment of $220,000 for the purchase of mineral rights in the Bedwell River Valley; the other was an advance payment of $126,000 relating to the expropriation of certain real estate.

The stated purposes of Vote 53 are to provide for the development and management of programs and policies required to operate and maintain the park and ecological reserve systems in British Columbia, including program management, parks operations, and parks development. These purposes do not extend to those for which the Sustainable Environment Fund Special Account was established.

As well, the Crown Land Special Account, to which park acquisition expenditures were charged in previous years, was, according to the Chairman of Treasury Board, not to be used for such funding in the 1990/91 fiscal year.

In April 1990, $3.7 million was allocated within the Sustainable Environment Fund Special Account for park acquisition. This amount included $1.7 million for the acquisition of Wallace Island and $2 million for the acquisition of private land and mineral/forest tenures for parks.

The enabling legislation for the Sustainable Environment Fund, the *Sustainable Environment Fund Act*, received Royal Assent on July 6, 1990. Sections of this

legislation were given retroactive effect to April 1, 1990.

However, cheque requisitions for the above-noted amounts were issued approximately a month before the legislation was passed. Therefore, these sums were paid out of the Consolidated Revenue Fund and charged to a vote, Vote 53, which was appropriated for other purposes. Although appropriate authority was provided in July 1990, these charges were not removed from Vote 53 up to the time of our audit in February 1991. Consequently, section 20(2) of the Act was not complied with to a significant extent.

2. Section 20(1) of the *Financial Administration Act* states:

> The estimates of revenue and expenditure for each fiscal year shall be prepared in a form directed by the Treasury Board for presentation to the Legislative Assembly by the Minister of Finance.

Detailed directions and instructions are annually provided to ministries and special offices on the preparation of their estimates of revenue and expenditure. It is from this information that the Treasury Board Staff prepares the *Estimates*.

The *Estimates* for each fiscal year are then presented to the Legislative Assembly by the Minister of Finance and Corporate Relations. Since the Act states that the Treasury Board is required to act in matters relating to the form and content of the Public Accounts and the *Estimates*, it follows that these aspects of the *Estimates* are to be determined by the Treasury Board before presentation of the *Estimates* to the Legislative Assembly.

We were advised by Treasury Board Staff that no formal direction is given on the form and content of the *Estimates*, but that Treasury Board is integrally involved in the preparation process and this constitutes tacit and implicit approval by the Board.

Given the above, it is not evident whether the legislative requirements of section 20(1) of the Act have been fully complied with.

Response of the Ministry of Finance and Corporate Relations

We welcome this audit and the findings that have been reported. The government appreciates the importance of good financial control over the public purse and that compliance with the Financial Administration Act is an essential element of control.

It must, however, be noted that just because a payment has been recorded as having been made out of an inappropriate vote it is not necessarily an illegal or improper payment. We believe that the two instances noted in the Report are cases where the payments made were quite proper even though, at the time of the audit, they had not been properly recorded.

B.C. Transit Payment of $2.4 Million

We agree that the $2.4 million payment to B.C. Transit should not be out of Vote 53. We also agree that it should be recorded as a payment out of the Freedom to Move Special Account.

Corrections for this amount and the other $17 million of payments noted in the Report had, in fact, been made at the time of the audit. The entries had not yet been reflected in the books of the Province due to some delays caused by the start up of a new ministry financial system.

Capital Payments out of Vote 53

We agree that Vote 53 was not the proper source of funds for the costs of acquiring Wallace Island, mineral rights in the Bedwell Valley and expropriation of real estate. We also agree that the payments should be recorded under the Sustainable Environment Fund Special Account.

The transactions in question were executed by the Ministry of Crown Lands after approval by Treasury Board and Cabinet. The Ministry of Crown Lands had been negotiating these deals before the Sustainable Environment Fund concept had been created. The statutory authority provided under the Crown Land Special Account provided the legal basis for the expenditures.

On April 19, 1990, the Minister of Environment had tabled legislation to create the Sustainable Environment Fund Special Account and the Ministry had been given direction that these purchases were to be recorded as charges to the Fund.

The Ministry of Parks, for administrative convenience, accepted the charges under the reasonable expectation that the Sustainable Environment Fund Act would be passed. There was never any intention that Vote 53 would eventually be the appropriation charged. In the unlikely event that the legislation did not get approval, the Ministry could have fallen back on the Crown Land Special Account appropriation.

Form and Content of the Estimates

The process for developing the annual Budget and the Estimates is long, involved and includes many iterations of content and form. Treasury Board is an integral part of this process and, although there is not formal approval of the form of the Estimates in any given year, the Board is informed and knowledgeable of what will be tabled in the House.

In our opinion, the process, the lack of any expressed concern by members of the Board or Members of the Legislative Assembly, and the precedent established over the years all indicate implicit approval of the form of the Estimates. Therefore, we believe there is substantive compliance with the intent of section 20(1).

Expenditure Review: Board of Internal Economy

A review of the accounts and financial procedures of the Board of Internal Economy

Background

The Board of Internal Economy was established in 1987 by the *Legislative Assembly Board of Internal Economy Act* (the Act). The Board is responsible for all the expenditures made under Vote 1 (Legislation) of the Province of British Columbia *Estimates* and is charged with ensuring the Legislative Assembly functions effectively. This it does by formulating policies for the administration of the Assembly. These policies can include, but are not limited to, the setting of Members' remuneration and allowances, the allocation of space and provision for security within the legislative grounds, and the appointment of staff to carry out the mandate of the Board. The Board is composed of six Members of the Legislative Assembly, four from the government caucus and two from the opposition caucus. The Speaker of the House chairs the Board.

The accounts of the Legislation vote are administered by the legislative accounting office. The office helps ensure the proper application of the policies set out by the Board, and processes expenditures, estimated to be some $19 million in the 1990/91 fiscal year. This office, consisting of six employees, has been in existence since May 1989.

The Auditor General has been appointed under section 6(6) of the Act to conduct an annual review of the Board's accounts and financial procedures.

Review Scope and Objectives

We examined and tested the various expenditure systems employed by the legislative accounting office to process expenditures under Vote 1. We focused on the processing of expenditures made by Members of the Legislative Assembly, with the objective of assessing the adequacy of controls within the legislative accounting office and the adequacy of guidelines for expenditures to Members. We did not review subsidiary systems of the Legislation vote, such as the legislative library or the Members' dining room.

Overall Assessment

The legislative accounting office has developed an adequate system of controls to ensure the authorized and accurate processing and recording of expenditure transactions. We observed areas where we believe additional guidance could be given to Members to aid them in accounting for their allowances and expenses, and we also noted procedures within the accounting office which could be improved.

Audit Observations

General guidelines for Legislative Assembly expenditures are laid out in the Members' Handbook, but we do not believe that these guidelines adequately tell Members what information the legislative accounting office requires so that it can process and monitor expense claims expeditiously. We have recommended that documentation of the guidelines for expenditures be improved to assist the Members in this respect.

Members each receive a constituency allowance for secretarial and office expenses, and are advised to maintain appropriate accounting records in case of audit. We noted that no guidelines had been issued to Members as to which accounting records should be maintained or what audit procedures might be expected. We believe the legislative accounting office should advise on these matters promptly.

As well, we believe that Members require further clarification on claiming in-constituency travel allowances for coastal/remote ridings. The legislative accounting office could also help Members by regularly alerting them of the status of their trips undertaken for public business purposes, as well as those taken between their constituency offices and the capital.

Response of the Legislative Comptroller

On behalf of the Board of Internal Economy, I wish to acknowledge the report you recently forwarded regarding the audit of systems utilized by my office to process expenditures under Vote 1. I was pleased with the favourable nature of your report concerning the adequacy of the controls employed to ensure accurate processing of authorized transactions.

With respect to your suggestions for improved guidelines to assist Members with the requirements of the various allowances available to them, I wish to advise that your recommendations will be presented to the Board or the administrative committee for their review and decision. My office is always pleased to provide advice and assistance to the Members regarding matters of concern to them and we will implement any additional systems or services which may be approved.

The administrative committee has received copies of your report and it will be presented to the Board at its next meeting. I wish to thank you and your staff for the professional manner and helpful attitude in which this review was conducted.

External Settlement/Safekeeping Services for Long-Term Bond Portfolios: Ministry of Finance and Corporate Relations

A review of controls relating to the external settlement and safekeeping services arrangement with the Canadian Imperial Bank of Commerce in Vancouver

Background

On behalf of various provincial Crown corporations, public sector pension funds, and other provincial agencies, Provincial Treasury, a part of the Ministry of Finance and Corporate Relations, manages $16 billion in long-term bond portfolios and is responsible each year for approximately 6,000 long-term investment transactions totalling $12.7 billion. Provincial Treasury develops investment strategies, settles investment trades, collects interest due, and maintains physical custody of long-term bonds. In September 1989, the Canadian Imperial Bank of Commerce (CIBC) in Vancouver was contracted to provide Provincial Treasury with custodial and settlement services. Since then, Treasury has transferred the majority of its actively traded long-term bonds, having a face value of approximately $10.2 billion, to CIBC for safekeeping. It maintains its non-actively traded long-term bonds in Victoria.

Investment transactions are settled on behalf of Treasury by CIBC through its Global Security Processing System (GSPS). Funds are electronically transferred from Treasury's bank accounts to investment dealers, after Treasury has authorized the settlement by directly accessing the GSPS. The GSPS provides daily cash transaction reports and month-end investment inventory reports for each long-term bond portfolio maintained by CIBC.

To track and record all investment transactions, Provincial Treasury maintains a highly computerized investment inventory tracking system, the Investment Portfolio System (IPS). The IPS became operational in October 1990 and provides the accounting and reporting for all investment, income, and capital transactions. The IPS is run on computer hardware at the British Columbia Systems Corporation, while the Treasury's Information Systems Branch provides any technical support required for the computerized aspects of the system.

Review Scope and Objectives

We examined the use of the IPS in tracking the external long-term investment settlements and safekeeping services provided by

CIBC as at December 31, 1990, to determine whether management had established controls to address the risks involved when using an external agency. Our review focused on controls that would guard against physical loss of securities, improper and unauthorized transactions, incomplete investment income receipt, and inaccurate and untimely recording of investments which could lead to inappropriate investment decisions.

Overall Assessment

Treasury has developed appropriate controls to guard against physical loss of securities and to prevent improper and unauthorized transactions being made. However, we noted areas where Provincial Treasury's internal processing controls and procedures could be improved to provide more accurate and up-to-date information for investment decision making.

Audit Observations

The IPS is the primary source of information used by both the Investment Branch, to formulate investment decisions, and the Securities Services Branch, to monitor interest receipts and the Province's investments held by CIBC. It is therefore essential that control procedures be in place and operating effectively to ensure that IPS records are accurate and complete.

Treasury has established procedures for reconciling GSIS and IPS records as well as monthly IPS bank records. We noted, however, that certain bank reconciliations were not current, and that the GSIS and IPS reconciliation procedures do not call for a complete reconciliation of the inventory balances contained in GSIS with those maintained on the IPS. Monthly reconciliations between GSIS and IPS records are performed on a rotating basis for each individual investment portfolio but, at the time of our audit, the reconciliations were not up to date. During our audit we noted an investment purchased but not recorded in the IPS, and another investment incorrectly recorded in the IPS because the wrong identification code had been entered. We believe these errors remained undiscovered for some time because of the incomplete reconciliation procedures.

We also noted that, although adequate processing controls have been established by Treasury to ensure the completeness, accuracy and validity of investment transactions entered into the IPS, these controls were not operating as effectively as planned. For example, we found new securities purchases not being entered promptly into the IPS after trading, because the system would not accept the transactions without valid industry-assigned identification codes and the system's temporary code capabilities were not being used by Treasury staff. We also found errors in the IPS in the description of the physical location of investments, resulting from system difficulties in updating and correcting information, and noted that improperly authorized adjustments could be made to investment records.

We have made a number of detailed recommendations to Treasury for improving the IPS and

GSPS reconciliation procedures. We have also suggested several ways in which the data input and data update procedures of the IPS can be enhanced. Implementation of these recommendations should improve the accuracy and timeliness of investment transactions recording.

Response of the Ministry of Finance and Corporate Relations

In response to the Internal Control Review conducted by your office on the external settlement/safekeeping services for the long-term bond portfolio, we are pleased that in your view appropriate controls, guarding against physical loss of securities and improper and unauthorized transactions, exist. We do agree, however, that improvements as identified by your staff should be made.

Since your review on December 31, 1990, we have implemented the following:

- *All monthly bank reconciliations for Investment Portfolio System (IPS) accounts are being performed on a timely basis.*
- *All inventory balances have been completely reconciled between the Global Securities Processing System (GSPS) and the IPS. Monthly reconciliations will be performed by the Debt Management Branch on a rotating basis for individual investment portfolios, at least once a year. Periodic test counts will be performed by the Banking/Cash Management Branch.*
- *All long term investment data input tickets are checked to a new daily transaction report produced to ensure the completeness, accuracy and validity of the investment transactions entered into the IPS.*
- *All new security purchases are assigned temporary identification codes and recorded promptly in a supplementary IPS data base. These security purchases will be transferred when valid industry identification codes are assigned.*

We are reviewing your other suggestions to enhance the data input and data update procedures of the IPS. The points raised will be largely resolved when the development of IPS is completed. Provided adjustments can be implemented within reasonable cost restraints, the matters raised will be dealt with at the earliest opportunity.

We would like to thank your staff for their thorough evaluation of our external bond custody system and for their continued cooperation with the ministry.

Child Day Care Subsidy Program: Ministry of Social Services and Housing

A review of financial and related controls over the systems for providing subsidy under the Child Day Care Subsidy program

Background

The Community Support Services Division of the Ministry of Social Services and Housing offers child day care programs to assist eligible families with the cost of day care, to provide grants to non-profit day care facilities, and to provide funding to non-profit agencies that offer support to qualified day care providers. The programs—namely, Child Day Care Subsidy, Special Needs Day Care, Child Day Care Grants, and Child Day Care Support—are established under the authority of the *Guaranteed Available Income for Need (GAIN) Act*. During the 1989/90 fiscal year, ministry expenditures for all child day care programs totalled $51 million.

We reviewed the Child Day Care Subsidy program, which had expenditures of $38 million for the year, representing an average monthly subsidy of $235 per child for 13,500 children. Applications for child day care subsidy are received and processed at some 168 district offices of the ministry throughout the province. The principal client groups benefitting from this program are parents who are either working or attending school, and their children.

The Act and its related regulations establish the social and financial needs criteria that form the basis for determining the eligibility of an applicant to receive subsidized day care services. The regulations also set out the rates and describe the method to be used for calculating parental contributions toward day care costs and the subsidy payable by the ministry. Maximum subsidy amounts are set by the ministry, and vary with the type of day care provided and the age of the child.

Review Scope and Objectives

In any financial assistance program, the major objective is to provide correct benefits to the right people. Our review, conducted during January and February 1991, was designed to evaluate the adequacy of manual and computerized control procedures established by the ministry to guard against:

- incorrect payments to, or on behalf of, ineligible or invalid applicants. In the Child Day Care Subsidy program, this could occur if the social and financial needs criteria are not properly and consistently applied, or the parental

contribution and subsidy payable are not correctly calculated by field staff;

- incorrect payments to caregivers or, in the case of in-own-home care, applicants (the claimants) submitting claims for unauthorized services or for services that have not been rendered; and

- unauthorized or invalid changes to transactions and master file data of approved applications.

We carried out the review at five district offices, at Day Care Accounts in Victoria, and at the Systems Services Division in Vancouver. Using documentation in a sample of day care client files, we tested the application of eligibility criteria and the calculation of subsidy amounts. We also tested edit routines and computer procedures designed by the ministry to ensure the completeness, validity and accuracy of data when staff are processing authorized applications and claims submitted by the claimant.

The ministry contracts with British Columbia Systems Corporation (BCSC) for most of its computing requirements, and with Elan Data Makers (Elan) for data conversion services. We did not consider it necessary to review procedures at BCSC or Elan, because controls over these procedures should reside with the ministry. Accordingly, we reviewed documented evidence of ministry procedures undertaken, to ascertain whether controls over the key functions performed at BCSC and Elan were operating effectively.

Overall Assessment

The ministry has developed a generally acceptable framework of policies and control procedures for processing applications for day care subsidy and related claims. However, certain procedures and practices require improvement so as to provide better assurance that the applicant meets the financial eligibility tests, and that claims are made only for services provided.

Audit Observations

Each applicant is interviewed by a Financial Assistance Worker (FAW) who, if appropriate, authorizes a subsidy that allows the parent to receive day care services from a particular caregiver for a specified period. The claimant then submits monthly claims to the Accounting Office in Victoria, where they are processed for payment. All authorized applications are recorded on the automated Child Day Care Subsidy system so that they can be matched against the claims to verify the correctness and accuracy of the claims before they are paid. If an ineligible applicant is granted subsidized day care services, there are few later checks which would prevent payment of the subsidy.

Two key elements of the system are the verification by the FAW of the applicant's eligibility to receive subsidized day care services, and the subsequent validation of claims from the claimant for the provision of those services.

A critical component of the eligibility decision is the income test. The FAW normally relies on both a personal interview with, and a statutory declaration from, the applicant to obtain assurance that the total income of all family members is correctly disclosed. The current verification procedures followed by field staff are normally limited to verifying reported income and, therefore, may not be sufficient to detect unreported sources of income. We also noted, in our audit tests, many instances where there was a lack of evidence to indicate that field staff had verified reported income or any changes to it. We recommended that the FAW should seek and examine sufficient, appropriate documentation to verify the completeness and accuracy of income of the family unit, and that a record of such an examination be made.

The FAW has the responsibility for determining eligibility and entitlement of the applicant. To ensure proper and consistent application of eligibility criteria, the ministry's procedures should include monitoring, by the District Supervisor, of the application of the social need criteria and the income test. Few guidelines have been provided as to nature and extent of the monitoring procedures to be carried out, and our audit tests revealed a high rate of small errors in the calculation of eligible income, exempt income level, and subsidy payable. We therefore recommended that the ministry strengthen its general control environment, particularly in district offices, by improving supervisory, review and monitoring procedures for approved applications.

We were also concerned that the current checks made by Processing Clerks to verify that day care services claimed have actually been rendered are not as effective as they could be. We recognize that this is a difficult area to verify, but we believe that a regular program of random confirmation from the applicant or the caregiver, as appropriate, would provide better assurance of services rendered. The ministry has provided, through computer matching of approved applications and claims, many good controls to ensure the correctness and accuracy of claims. However, the effectiveness of these controls would be undermined if a Processing Clerk inappropriately overrides certain exceptions reported through the matching routines. We therefore recommended that the ministry improve its edit, error and correction routines, including related documentation and supervision.

We also made several recommendations to the ministry for strengthening computer environmental controls, primarily over access to the Child Day Care Subsidy system.

Response of the Ministry of Social Services and Housing

We are very pleased with the overall conclusion of the Internal Control Review of the Child Day Care Subsidy Program that "the ministry has developed a generally acceptable framework of policies and control procedures for processing applications for day care subsidy and related claims." This is a credit to our staff.

We generally concur with your findings and recommendations and would like to make the following comments:

1. *The application process is quite thorough to prevent an ineligible applicant. Also, the matching of the authorization to claims further ensures that only approved applicants receive the subsidy. These authorizations are on the payment system for only six months and the Financial Assistance Worker must approve a new authorization to continue the subsidy.*

2. *This issue of verifying all sources of income is one that we are concerned with; however, our philosophy is to give good service to the clients based on the available information and to request further information to verify other sources of income as each individual case warrants.*

3. *The Community Support Services Division will review procedures and requirements for District Supervisors to monitor approved applications.*

4. *Random confirmation from the applicants will be reviewed but we believe that confirmation from the caregiver would not provide an increased assurance of services rendered.*

5. *The ministry will review the present policy and procedures for the Day Care Accounts Supervisor to review and monitor error and warning message reports.*

The ministry is aware of and agrees with your concerns and will incorporate the recommendations where the cost of control and staffing is appropriate. The ministry position is to provide excellent service to our client while being cognizant of the potential risk.

The Industrial Incentive Fund: An Audit of the Loans Process

A review of the management of loans made from the Industrial Incentive Fund

Audit Purpose and Scope

We reviewed the management of loans made from the Industrial Incentive Fund (the Fund) which are administered by the Ministry of Regional and Economic Development (the ministry). There are two categories of loans in the Fund. Those loans approved and managed solely by the Province are referred to as "ad hoc" loans. Those made under the Canada-British Columbia Subsidiary Agreement on Industrial Development are called IDA loans. The Government of Canada is involved in the decision-making process for these loans. We included both in our review. The funding level of individual loans varies greatly, ranging from a $200,000 loan to a $55 million preferred share investment. In this report, "loans" includes loans and investments paid out of the Fund.

We conducted this audit to determine whether the ministry's procedures are adequate to provide the information needed for informed decision making, and to protect the public's investment once the loan decision has been made. Specifically, we examined the procedures for reviewing and evaluating funding requests and for subsequently disbursing the funds and monitoring the projects. We also assessed whether these procedures are being followed consistently, by selecting a sample of loan files for which transactions had occurred during the fiscal year ended March 31, 1990. These files contained the analyses and assessments done by ministry staff. We did not review the procedures for collecting loan repayments.

As well, we wanted to determine whether the ministry is providing appropriate information about the loans and the Fund to the Legislative Assembly and the public. To do this, we reviewed the extent to which the ministry is reporting on the Fund in its annual report.

Overall Assessment

We concluded that the ministry's procedures for reviewing and evaluating funding requests are adequate and are being adhered to consistently. They result in substantial information being provided to decision makers.

The ministry's procedures for protecting the public's investment are generally adequate and are adhered to for the disbursing of funds, but they are generally not adequate for the monitoring of projects after the funds have been disbursed. The Ministry of Finance and Corporate Relations, which has been responsible for monitoring of the loans since April 1990, is developing procedures to rectify the situation, but they have

not yet been fully implemented.

The ministry's 1990 annual report gives only limited information about the Fund. It does not provide details about the individual projects funded, the cost to the Province of these projects, or the results achieved.

The Industrial Incentive Fund: An Overview

The *Industrial Development Incentive Act* (the Act) specifies three funding initiatives (Figure 3.1). Two of these, the Small Business Incentive Program and the Tourism Incentives Program, we did not include in our review. The third and largest, the Industrial Incentive Fund (the Fund), was our focus. This Fund provides loans and investment funding to help establish new industry, to introduce new technology to existing industry, and to help develop regions of the province.

When the Act was passed in 1985, the Legislative Assembly set the funding level at $125 million for the three initiatives. This amount was the Province's portion of loan disbursements expected for the three programs, funded along with the federal government through the

FIGURE 3.1

Economic development funding programs under the Act and their relationship to federal/provincial funding subsidiary agreements under ERDA

Funding dollars are amounts approved by the Legislative Assembly to March 31, 1990

Source: Ministry of Regional and Economic Development

Economic and Regional Development Agreement (ERDA) ($50 million for the Small Business Incentive Program, $25 million for the Tourism Incentives Program, and $50 million for the IDA loans). The intent of ERDA was to provide a coordinated effort between Canada and the Province to influence economic development in British Columbia. IDA loans from the Industrial Incentive Fund have been administered through the Industrial Development Subsidiary Agreement. March 31, 1990 was the termination date for new project approvals; no new proposals have been assessed since then.

Over the life of the program, some loan approvals were withdrawn before any loan disbursements were made when it became evident the projects were unlikely to proceed. Twenty-one IDA loan approvals remain, totalling $42.1 million in commitments for several industry sectors (Figure 3.2 and Table 3.1). As of March 31, 1990, $28.1 million had been disbursed by the Province.

In addition to IDA loans, the government will consider a request for assistance from the Industrial Incentive Fund when a project is not eligible for funding under any other government programs. For example, a project may be considered ineligible under established funding programs because it could affect competition elsewhere in Canada, or because the request is for operating funds rather than capital funds. Applicants may

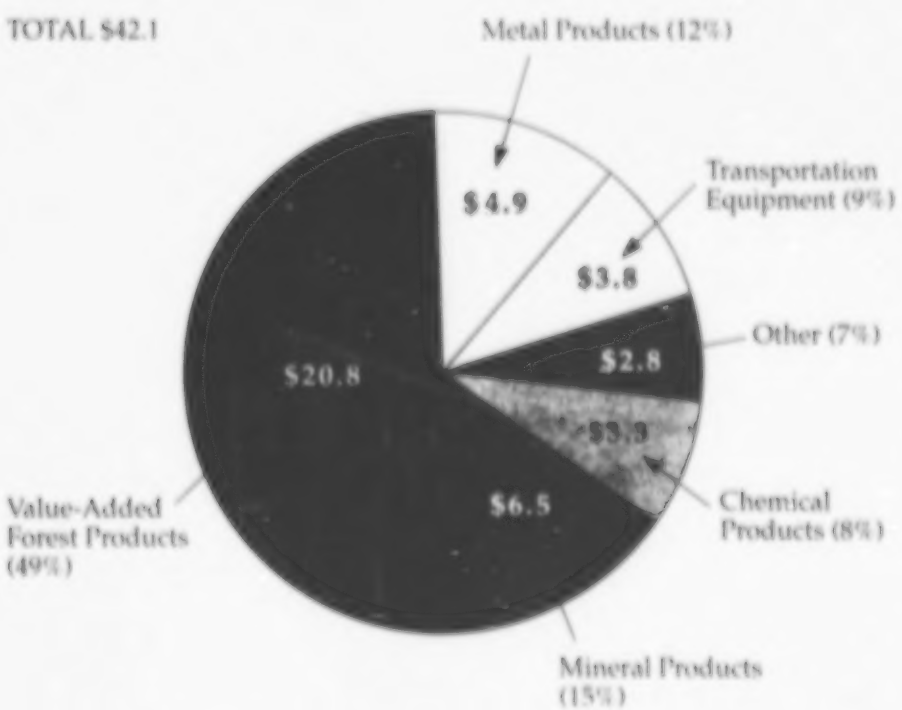


FIGURE 3.2

IDA loans by industry sector, approved to March 31, 1990 ($ in millions)

Source: Ministry of Regional and Economic Development

TABLE 3.1

IDA loans approved by industry sector to March 31, 1990

Source: Ministry of Regional and Economic Development

Applicant	Product	Amount Approved ($ in millions)
Value-Added Forest Products		
1. Canadian Chopstick Manufacturing Co. Ltd.	Chopsticks	$ 1.1
2. Canpar Industries	Particle board	2.8
3. Coastland Wood Industries Ltd.	Green veneer	3.6
4. Daesung Canada Inc.	Chopsticks	.5
5. Dawson Creek Chopsticks Company Inc.	Chopsticks	.7
6. Elk Wood Specialties Ltd.	Doors and ladders	2.1
7. Gregory Forest Products Limited	Sawmill (lodgepole pine)	.5
8. Norvik Timber Inc.	Red alder products	4.3
9. Prince George Wood Preserving Ltd.	Treated alpine fir	1.2
10. Vancouver Energy Ltd.	Wood pellet fuel	.7
11. Vicell Canada Tissue Ltd.	Dry formed paper	2.3
12. Woodland Windows Ltd.	Beams and posts	1.0
Subtotal		20.8
Mineral Products		
13. Bradford Enercon Inc.	Rock wool insulation	6.5
Metal Products		
14. Sherwood Metallurgical British Columbia Corporation	Low-carbon ferrochromium	4.9
Transportation Equipment		
15. Canadian Autoparts Toyota Inc.	Wheels	3.0
16. Ulstein Marine Ltd.	Parts for marine vehicles	.8
Subtotal		3.8
Chemical Products		
17. Chatterton Petrochemical Corporation	Phenol/benzoic acid	2.4
18. Diapac Industries Ltd.	Chemicals for paper production	.9
Subtotal		3.3
Other		
19. Dynapro Systems Inc.	Computer equipment for industrial control	1.1
20. HCD/Health Care Diaper Limited	Disposable diapers	.5
21. Rogers Foods Ltd.	Flour and cereal	1.2
Subtotal		2.8
Grand Total		$ 42.1

seek share capital financing or loan terms more flexible than the those being offered by the IDA program. Funding under these circumstances is provided solely by the Province and is described as "ad hoc."

As of March 31, 1990, the total amount available for ad hoc financial assistance was $129.7 million. To that date, funding of $105.6 million had been approved for 11 projects, covering several industry sectors (Table 3.2). Nine of the projects were funded by loans; the other two received equity funding in the form of a preferred share investment by the Province.

Figure 3.3 identifies the approved ad hoc funding by industry, excluding the major funding for two projects involving mined minerals, provided to Cominco Ltd. ($55 million) and Cassiar Mining Corporation ($25 million). The ministry believes that to exclude this major funding provides a fair reflection of the economic diversification the fund is supporting.

Although the Minister of Regional and Economic Development is charged with administering the Fund, the Act gives Cabinet the final authority. It is Cabinet that decides which projects get funded, for how much, and on what repayment terms.

TABLE 3.2

Ad hoc funding approved to March 31, 1990

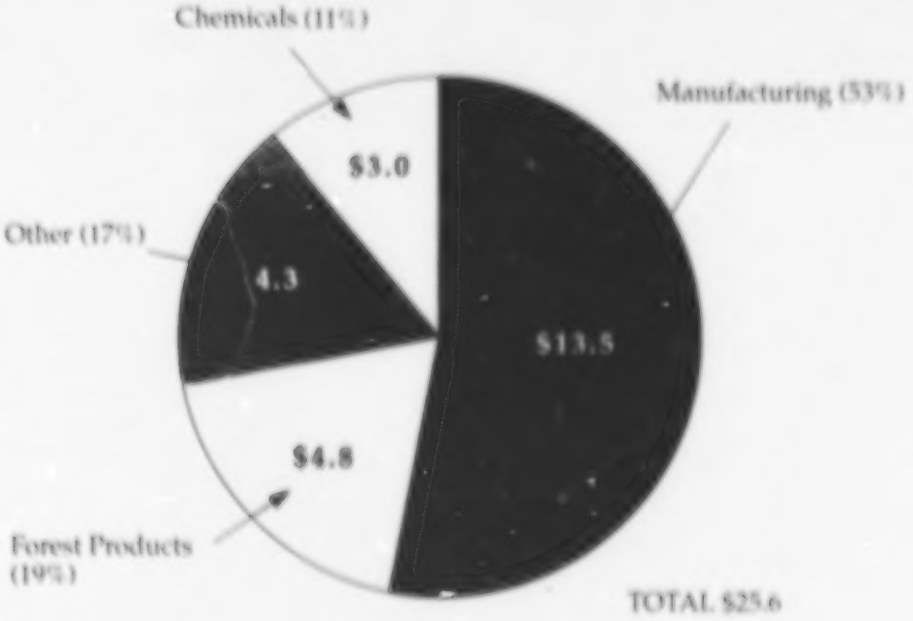
Source: Ministry of Regional and Economic Development

Applicant	Product	Amount Approved ($ in millions)
Mineral Products		
1. Cominco Ltd.	Lead	$ 55.0
2. Cassiar Mining Corporation	Asbestos	25.0
Subtotal		80.0
Manufacturing		
3. Consumers Packaging Inc.	Glass bottles	11.0
4. Citair Inc.	Recreational vehicles	1.1
5. Three Buoys Houseboat Builders Ltd.	Houseboats	.8
6. IMW Industries Ltd.	Natural gas compressors	.4
7. Venture Technologies Inc.	Equipment for handicapped	.2
Subtotal		13.5
Forest Products		
8. Westcost Plywood Company Ltd.	Plywood	4.0
9. Canadian Forest Products Ltd.	Dry fibremat	.8
Subtotal		4.8
Chemicals		
10. FMC of Canada Ltd.	Hydrogen peroxide	3.0
Other		
11. North Shore Studio Management Ltd.	TV series and movie studio	4.3
Grand Total		$105.6

FIGURE 3.3

Ad hoc loans, by industry, excluding Cominco Ltd. ($55 million), and Cassiar Mining Corporation ($25 million), ($ in millions)

Source: Ministry of Regional and Economic Development



In addition to Treasury Board, Cabinet uses the expertise of an appointed Provincial Credit Committee. This five-member committee consists of banking and industry executives mainly from the private sector, and is chaired by the Minister of Finance and Corporate Relations. It reviews the ministry's loan proposals and makes recommendations to Cabinet for all ad hoc funding, as well as for all IDA loans over $1 million.

Until the expiry of the IDA program, there was also a four-member joint federal-provincial management committee which reviewed each loan before it proceeded to the Provincial Credit Committee. Each government appointed two members. This management committee was aided by a two-member technical sub-committee which reviewed projects to determine if they were eligible, economically viable, and technically feasible, and which also recommended funding levels.

The Loan Review Process

Ad Hoc Funding

There is no standard application form for ad hoc financial assistance. The preliminary enquiry is usually in the form of a letter. If the ministry decides a project warrants further consideration, it requests additional information, including a business plan. For the ad hoc projects we examined, the ministry often had to make several attempts at gathering sufficient information to complete its analysis. However, we found that in

each case enough information was eventually gathered for the ministry to assess each project.

Basic Eligibility

We reviewed each of the 11 projects approved for ad hoc funding to see whether they would have been eligible for funds under any other government program. We found that, except for one, they were clearly not eligible for other government assistance. The one exception would have qualified for IDA funding. However, because the federal government was already providing some financing to the applicant through another federal program, it did not want to contribute further funding to this applicant. As a result, the Province agreed to treat the funding as ad hoc.

The government will not consider requests for loans to professionals (e.g., doctors and lawyers), or for loans to be used to acquire shares in a business or to repay shareholder loans. Also, debt cannot be refinanced if the benefit goes to a financial institution rather than the applicant. We found that all the ad hoc projects met these basic eligibility requirements.

Loan Principles

To respond consistently to requests for ad hoc funding, the government has established four principles as the basis for determining whether or not a project should receive financial assistance. After a project has met the basic eligibility requirements, it is reviewed to determine if its elements are consistent with these principles:

- projects should be commercially viable and able to operate without ongoing provincial government subsidies;
- projects should have demonstrable net benefits to British Columbia and not adversely affect existing businesses in the province;
- assistance should be provided only if it is necessary for the project to proceed, and then only at the minimum level required to ensure project viability; and
- all loans must be secured in accordance with normal commercial lending practices.

The second principle, it will be noted, contains two criteria: net benefits and effect on existing businesses.

Commercial Viability

The government requires that 13 areas be considered in assessing commercial viability. They include an assessment of management capability, a review of financial statements, an assessment of cash flow projections for long-term profitability, and the projection of an acceptable return on the investment. Market strategies and technical feasibility studies are also reviewed. We found that the 13 areas were consistently reviewed in the analysis of the projects.

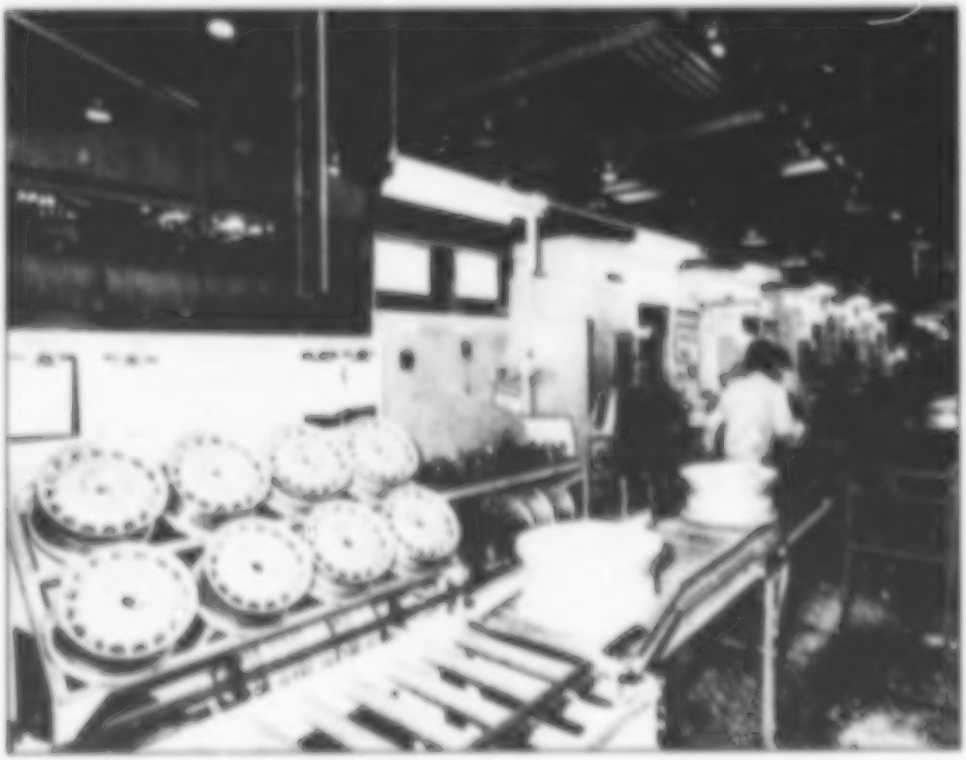
Net Benefits to the Province

The ministry has guidelines to help it determine whether a project would provide net benefits to the province. However, we found that the value of the net benefits of each

project was not determined in a consistent manner. The benefits being described were often neither complete nor always costed. The ministry's analyses identified the number of jobs created or maintained, and the value of purchases expected within the province. Sometimes, it also included the related social services taxes. The type and amount of import replacements or expected exports were also included if applicable. Sometimes a comment was made about government revenues increasing through corporate and personal income taxes, but the amount was not specified. Although it was evident that enough analysis had been done to show that each loan did provide some benefits, we believe that the assessment of each project's potential net benefits would be aided if the information were gathered and summarized in the same way for each application.

Effect on Existing Businesses

The procedures include an analysis of the potential impact of a proposed project on the applicant's competition. On some of the projects, the analysis was clear-cut because the industry was well defined. However, because the scope of "competition" varies from project to project, the ministry considers this criterion the most difficult to assess. It is also the



Canadian Autoparts Toyota Inc. wheel plant

most exhaustively analyzed. We found that each loan analysis included a detailed review of how funding would affect existing businesses.

Financial Need

The principles established by government state clearly that assistance should be provided only if that assistance is necessary for the project to proceed. For six of the projects, the analyses indicated that the need was financial, in that sufficient commercial financing was unavailable. For four others, an incentive was needed for the applicant to be able to obtain a desired rate of return on the project. The last project required the Province to share in the risk. All project reviews included cash flow analyses and communication with the commercial lenders already involved with the projects. These were used to ensure that only the minimum level of funding needed to ensure project viability was provided.

Security

The government requires that security be obtained on loans. We found all ad hoc loans have been secured. The security for ad hoc funding is often a second charge on assets, and a corporate guarantee. On occasion, a personal guarantee is also taken. The ministry's desire for security also extended to its preferred share investments. Generally when private investors invest in preferred shares, the nature of the investment provides little or no security. The ministry, however, did arrange a corporate guarantee and a mortgage for one of the two preferred shares funding agreements.

The government's aim is to arrange the best security available, considering the extent and nature of financing provided by the primary lender, which is usually a commercial bank. The ministry may take a less secure position, if by doing so investors are encouraged to proceed with a desirable project. When corporate assets are the security, their value may increase or decrease over time. On occasion, this has meant that although security appears adequate when the loan is approved, at a later date, the value of the security is less than originally anticipated. For example, the recipient of one loan was subsequently put into receivership, and the ministry tried to make good on its security. It was unsuccessful because the bank's first charge was greater than the market value of the assets held as security.

Approving the Loans

Once the loan application and supporting documentation had been reviewed at the ministry, all ad hoc submissions went directly to the Provincial Credit Committee. Before the Provincial Credit Committee was formed in June 1989, Treasury Board reviewed the submissions. Security and repayment terms were negotiated with the applicant beforehand and were included in the submission. After its review, the committee sent its recommendations, along with supporting documentation, to Cabinet. Orders-in-Council (OICs) were prepared for all the ad hoc funding arrangements, indicating Cabinet's approval. We noted that two of the OICs did not refer to the document that detailed the terms and conditions of the funding. We believe that a reference to the terms and

conditions agreed on by Cabinet should be specified in the OIC, as required by the Act.

Withdrawn and Rejected Loan Applications

The ministry estimates that approximately 15% of applicants receive loans. We selected a sample of withdrawn and rejected applications to determine if there were valid reasons for not accepting them. We found that applications had been withdrawn because the applicants had not responded to further enquiries by the ministry or because they had decided not to go ahead with the project. Applications had been rejected after meeting the basic criteria because of their questionable commercial viability, their lack of benefit to British Columbia, or their negative effect on existing businesses, or because alternative funding was available. These reasons were consistent with the loan principles specified by the government.

Industrial Development Subsidiary Agreement (IDA) Funding

The processes followed by the federal government and the ministry for reviewing applications for IDA funding were similar to those used for ad hoc loans.

Basic Eligibility

The ministry's review of basic eligibility covered three areas: applicant eligibility, activity eligibility, and project cost eligibility. We reviewed the files for six approved loans and found that the ministry had completed all the necessary steps to review basic eligibility.

Other Criteria

After meeting the basic eligibility requirements, the applicants' projects were then assessed against four major criteria:

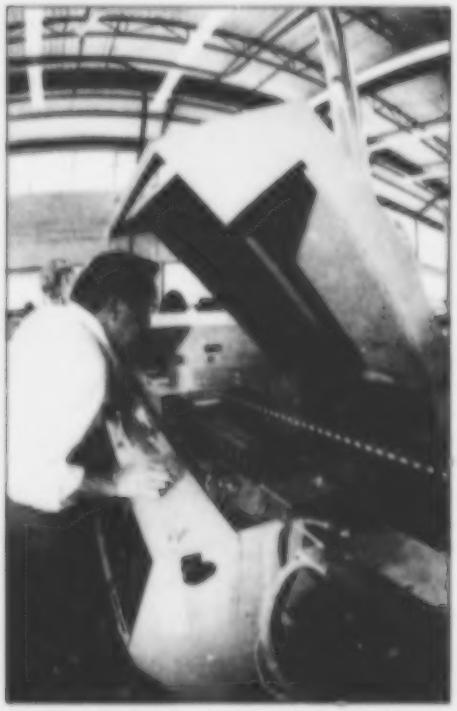
- Did the project have a reasonable prospect of long-term economic viability?
- Would the project proceed without government assistance?
- Would the project threaten the viability of other firms in that industry?
- Would the project significantly increase economic activity in British Columbia?

We found that comprehensive reviews had been done for three of these four criteria. The ministry reviewed the economic viability of the projects and the applicants' need for funding in the same way that it determined the commercial viability and need for ad hoc projects. The review of the third requirement, the projects' effects on the viability of other firms, considered businesses across Canada.

The review of how a proposed project would affect British Columbia's economy was less structured. A standard had not been established that would help determine objectively and

consistently whether a project would significantly increase economic activity, although there were some broad guidelines. For example, one or more of the following were to be considered: economic diversification, export potential, import replacement, technology transfer, regional benefits, domestic purchases, and long-term employment opportunities.

The analysis was similar to that used to determine net benefits provided to British Columbia for ad hoc funding. The benefits were broadly described and values were not always calculated, even when they could be determined. Although the analyses indicated that each project would generate some increase in economic activity in the province, the government had not defined what would constitute a "significant increase." Without clearly defining what represents a significant increase, we believe it is difficult for any analysis to demonstrate that a project meets this objective.



Dynapro Systems Inc. computerized soldering equipment

Security

As with ad hoc loans, the government required security for IDA loans. Since the projects we reviewed included commercial financing, the security was often a second charge on the project assets, to accommodate the bank's security requirements as the primary lender.

Approving the Loans

We noted that, after the ministry negotiated security and repayment terms with an applicant, it sent its analysis and recommendation to the joint federal-provincial management committee for review and approval. If a loan was approved by the management committee, the analysis was packaged into a submission to the Provincial Credit Committee for preliminary approval if the loan was for $1 million or more (before June 1989 they went to Treasury Board). Then, it was sent to Cabinet for final approval. Loans for under $1 million were sent directly to Cabinet. For the six loans we reviewed, the approved terms and conditions referred to in the OIC indicating Cabinet's approval were those initially recommended by the ministry.

Withdrawn and Rejected Loan Applications

We reviewed a sample of loan applications from inception of the

program which had been either withdrawn or rejected after meeting the basic criteria. The ministry estimated that it had reviewed approximately 75 IDA loan applications each year during the life of the program, and that 70% passed the basic eligibility criteria. We found that some of these were withdrawn because the applicant decided not to go ahead with the project. For those IDA applications that were rejected after meeting the basic eligibility criteria, 50% had questionable economic viability, and the other 50% would have provided competition for existing businesses. Some of these also had other financing available, an indication that the loan was not needed.

Protecting the Public's Investment

We found that procedures existed to ensure that both ad hoc and IDA loans were disbursed in accordance with a signed agreement, and were used as intended by the recipients. Although these procedures were applied consistently, recipients' activities have not been monitored regularly to help ensure that the loans remain collectible after they are disbursed.

Disbursing Loans

The loan or share agreements contain terms and conditions which must be met before each loan disbursement is made. Occasionally, there may be valid reasons for waiving some terms and conditions. For example, for one of the ad hoc loans we reviewed, confirmation of a lease of land was not provided. In another case, the applicant had not met an equity requirement. A third case involved a delay in registering security, although the matter was resolved before the second disbursement was made. There were documented reasons for waiving the specific terms and conditions in such cases.

Five of the six IDA loans we reviewed were disbursed through several advances. For these five, some of the terms and conditions had been waived for administrative reasons. For example, confirming voting control, equity, debt-equity ratio, and project completion status for each advance could create considerable burden for the applicant, without adding to the government's security. We think the procedural changes were reasonable. They occurred, however, because the agreements had not been tailored to eliminate procedures that would be difficult to apply when a loan was paid out with more than one advance.

Monitoring Projects

For most loans, repayment will not be required to start for several years after the final disbursement. However, once the final disbursement has been made, the ministry has not been monitoring loans unless recipients have defaulted on interest or principal payments. We believe that, without regular monitoring, the Province may be jeopardizing its ability to realize any claim it may have if a project becomes unsuccessful.

Financial statement reviews to ascertain that loan agreement provisions were being adhered to

were not being performed on a timely basis. Loan agreements require recipients to submit financial statements regularly (usually annually) until their loans are repaid. However, we found that recipients generally had not complied, nor had they been prompted to comply by the ministry. Neither were site visits being carried out to help ensure that projects were operating as planned, and that secured assets were still on site and being maintained.

In a 1989 report to the ministry, the Office of the Comptroller General identified the above weaknesses in the monitoring of loans made by the ministry. On April 1, 1990, the ministry signed a protocol agreement with the Ministry of Finance and Corporate Relations' Loan Administration Branch, under which the branch administers the disbursement and monitoring of the loans. To date, the branch's emphasis has been on disbursing loans and following up on delinquent accounts. However, in June 1990 it requested financial information from all loan recipients. Six of the loans we reviewed had received their final disbursement. Financial statements were received for five of those loans and limited reviews were performed on four of them.

The branch is developing standards for monitoring on a regular basis. We understand these standards will include regular site visits and a detailed semi-annual review of all outstanding loans. We encourage the branch to implement these standards.

Accountability

In its 1990 annual report, the ministry provides information about loans made through the Fund. The ministry reports that, as at March 31, 1990, the Industrial Incentive Fund had provided $42.1 million for loans to 21 projects under IDA. It estimates that these projects created 3,000 jobs. It also reports that an additional $107.7 million had been provided for projects supported by the Province alone, with an estimated 1,600 jobs created.

We believe that additional information about the projects funded, the costs incurred by the Province, and the results expected and subsequently achieved should also be reported.

We understand that the ministry's limited disclosure reflects its concern for protecting confidential information related to the operations of companies receiving financial assistance. The ministry recently commissioned an advisory group to look into information disclosure issues. The group has concluded that the public should have access to government information, with certain exceptions. These exceptions relate to information that would adversely affect the business of the loan recipient if the information were disclosed. The group goes on to recommend that information concerning financial assistance and the recipients of such assistance be categorized by degrees of sensitivity, and be available to the public on the basis of that categorization. The ministry is using this report in formulating its new policy on access to information.

Response of the Ministry of Regional and Economic Development on the Industrial Incentive Fund

The Ministry of Regional and Economic Development welcomes the Auditor General's report on the management of loans made from the Industrial Incentive Fund. The Ministry is particularly pleased with the report's conclusion that its procedures for reviewing and evaluating funding requests are adequate to provide decision-makers (the Minister, Provincial Credit Committee and Cabinet) the information needed for informed decision-making.

The Ministry is also pleased the review of the loans process found that the procedures for protecting the public's investment are generally adequate and are adhered to for the disbursing of funds. As further detailed in the report the main principles or criteria applied in assessing whether a project should receive financial assistance are the following:

- *commercial viability*
- *economic benefit to British Columbia*
- *impact on competing firms*
- *financial need for project to proceed*
- *security to be obtained*

The audit report indicates that for the period ended March 31, 1990, the only criteria not determined or defined in a consistent manner were the establishment of net benefits and what constituted a significant increase of economic benefits to the provincial economy. Benefits such as the value of economic diversification, technology transfer and long-term employment are generally not conducive to costing in terms of monetary benefit. Notwithstanding this, the Ministry is continually refining the contents of project analyses to ensure even more consistent and comprehensive information is provided to decision-makers.

The Ministry agrees that Orders-in-Council (OICs) should refer to the document that details the terms and conditions of loans approved by Cabinet. The Ministry of Attorney General in drafting OICs have consistently done this except for the two loans cited in the audit report which were approved in the intial years of the Industrial Incentive Fund.

The other aspects critiqued were the monitoring of projects after funds have been disbursed, and the level of detail contained in the Minstry's Annual Report about individual projects funded. Consistent with the audit report's recommendation it is expected that the Loan Administration Branch of the Ministry of Finance and Corporate Relations will fully implement the new standard it has developed for the monitoring of loans. The Ministry is pleased to advise that the extent of project specific information to be included in the Ministry's Annual Report will be considered in preparing future reports.

Performance and Security Bonding

A review of the management of bonding held by ministries

Audit Purpose and Scope

We conducted our audit to determine whether ministries were managing performance and security bonding in a manner that protected the financial security of the government and the interests of the public.

We reviewed the policies and procedures established by the government for managing performance and security bonding, and ascertained whether ministries were applying them. Specifically, we focused on the procedures established by ministries for setting the level and type of security, obtaining and safeguarding security, and maintaining appropriate records of security held.

We carried out this audit in six ministries, each of which held $2 million or more in security as at September 30, 1990, the effective date of our audit. At that time, the total amount of security held by the six ministries was approximately $1.105 billion, representing more than 95% of total bonding held by the government.

The Ministry of Transportation and Highways was holding about $1 billion of performance bonding in the form of non-negotiable bonds. On April 1, 1990, the ministry delegated responsibility for the administration of performance bonding for regional contracts to its regional offices. We did not, however, review the bonds held by regional offices; we limited our review to those bonds held centrally by the ministry for construction contracts exceeding $200,000, and for road and bridge maintenance contracts. The ministry estimated that these bonds amounted to more than 90% of the total performance bonding held by the ministry at the time of our review.

The other five ministries held about $105 million in security bonding, mostly in the form of non-negotiable security. In each of these ministries we focused on the program or area holding the majority of the security bonding (Table 3.3).

TABLE 3.3

Area of bonding examined by ministry as at September 30, 1990

Source: Ministries

Ministry	Area of Bonding Examined	Bonding ($ millions)
Energy, Mines & Petroleum Resources	Mine reclamation	45
Forests	Licensees	35
Crown Lands	Crown land leases	11
Labour and Consumer Services	Travel agents	5
Environment	Waste management	4
		100

We limited our review in the Ministry of Forests to an examination of the management of the security held centrally by the ministry, which totalled approximately $13.5 million as at September 30, 1990. We were unable to devote staff resources to review the security bonding administered by the ministry's regional and district offices. As a result, we could not conclude whether the ministry was obtaining the level and type of bonding it required in these locations. Similarly, we could not conclude whether the ministry was adequately protecting or accounting for security that was under regional or district administration.

Overall Assessment

We believe that the management of performance bonding obtained by the Ministry of Transportation and Highways fully meets the government's objective of protecting the financial security of the government.

We found that the other ministries we reviewed were managing security bonding adequately once they had obtained it. However, there is no assurance that the security bonding they obtained fully meets the government's objective of protecting the financial security of government and the interests of the public. The reason is that government policies do not provide sufficient guidance to ministries on how to set appropriate levels of security bonding.

The Need for Security

When the government enters into contractual agreements with individuals and companies, there always exists the possibility that the terms and conditions of those agreements may not be completed satisfactorily by the individuals or companies. This could lead to the government incurring financial loss, or to the interests of the public not being adequately protected when they do business with those holding licenses or other statutory privileges. Given these risks, the government seeks to protect itself and the public by obtaining security from the individuals and companies. Two types of security it considers are performance bonding and security bonding.

Performance bonding refers to the security the government requires from contractors. The security is obtained to ensure that the contractors perform according to their contracts, which are typically construction-type contracts. The Ministry of Transportation and Highways awards contracts to companies for the construction of public highways, bridges and other public works. There is a possibility that these companies may not satisfactorily complete these construction works. This could result in the government having to complete the works. Consequently, the government requires the ministry to obtain performance bonds from these companies to cover this risk. The security required on these contracts usually consists of performance bonds, and labour and materials payment bonds, each for 50% of the contract amount. These bonds are in

the nature of a guarantee or insurance provided by an agency in support of the contracts.

Security bonding refers to the security the government requires from licensees, permittees, and lessees when granting them either access to Crown assets or authority to provide certain services to the public. The amount of the security to be obtained depends, in part, on the potential future costs of the permit or license requirements. For example, a permit may specify that Crown land is to be left in a certain condition after the permittee has completed his use of that land. If the permittee fails to meet this requirement, the government has to do the work itself. The purpose of obtaining security is to fund the cost of this work should the government be required to undertake it.

Security held by the five ministries we reviewed which grant licenses and permits, involved both non-negotiable and negotiable securities. Non-negotiable securities include performance bonds, letters of credit, and agreements between a ministry and a financial institution to provide cash should the permittee or licensee not comply with the permit or license. About $90 million of security held by the ministries was in non-negotiable form, and the remaining $10 million was in negotiable form, such as cash and term deposits.

What We Looked For

We expected to find that, once it had identified all of the programs or areas where performance and security bonding is appropriate, each ministry would undertake the following steps to help ensure that the government and the interests of the public are protected.

First, the ministry should set an appropriate level and type of security for each sort of contractual agreement. To do this, it should identify any risk associated with the contract, license or permit and estimate the potential future cost to government of that risk. It should then assess how the risk will be shared with the contractor, licensee or permittee, and set the level and type of security accordingly. Each ministry should review its required security levels and types on a regular basis to help ensure their adequacy.

Second, the ministry should obtain from each contractor, licensee or permittee the required level and type of security; and third, it should safeguard the security it holds so that security is available to be used by the ministry if necessary, or returned in due course to the contractor, licensee or permittee.

Finally, the ministry should keep accurate and complete records of security received so it has the necessary information to manage and account for security.

Managing Security

Guiding Ministry Staff

In July 1988, the government issued general policies for the administration and management of performance and security bonding. These policies are contained in the government's "General Management Operating Policy Manual". They

cover the various areas of performance and security bonding management: the types of security to accept, the ways to keep them safe, and the records to be maintained. They also establish that ministries are responsible for setting their required levels of security. However, the government's general policies provide only broad guidelines and procedures, which ministries find necessary to expand upon so as to provide detailed guidance for their staff.

We found that the Ministry of Transportation and Highways has documented its policies for the management of its performance bonding. Its "Contract Management Manual" contains policies on the management of risk and the types of security to accept. They are consistent with the government's general policies.

Of the five ministries holding security bonding, we found that only three had written security bonding management policies and procedures in place. Of these, the Ministry of Forests and the Ministry of Labour and Consumer Services had documentation that was current. The other one, however, the Ministry of Environment, had not updated its documentation since 1983. As a result, its security bonding policies did not include some of the requirements included in the government's general policies.

Of the two other ministries, Energy, Mines and Petroleum Resources had no written policies and procedures, while Crown Lands had written general policies but had not developed specific procedures. In both cases, the ministries had delegated the management of security bonding to specific ministry managers. Also, the Ministry of Energy, Mines and Petroleum Resources had established a committee, including staff from other affected ministries, that sets security levels for permits issued for large mining operations.

Setting the Level of Security

The government's general policies suggest that construction contracts be secured by a performance bond, and a labor and materials payment bond. Each of these is to be in the amount of 50% of the contract price. We found that the Ministry of Transportation and Highways is setting the level of performance bonding it requires in accordance with these policies. We understand that these requirements are the recognized practice in the construction industry. We believe that the level of performance bonding required by the ministry's policies is adequate to protect the financial security of the government.

The government's general policies do not describe, however, how to determine what the appropriate security bonding level should be. That decision is left to individual ministries. It is a key decision which, if improperly made, may not provide financial security to the government.

We believe two matters are of major importance in setting the security bonding level: determining the amount of risk, and deciding how much of the risk will be covered with security.

Determining the Amount of Risk

The government has not defined risk or indicated how it should be considered in the setting of security levels. Risk may be viewed in a number of ways. For example, it may be thought of as the estimated cost of a future action, such as reclaiming a mine site at the completion of mining. A future cost can sometimes be difficult to determine accurately. This is due to the uncertainty about the amount of work involved and about the price of the work required, because of the length of time that may elapse before the work is required. In many cases, however, reasonable estimates can be made.

Alternatively, risk may be viewed as the probability of a future cost actually having to be incurred. In the example referred to above, the risk in this sense is the likelihood that the government would need to take action. Determining this probability would require that a number of factors be considered, such as the likelihood of the permittee not meeting his obligations and the likelihood of ministry monitoring failing to identify a potentially unacceptable situation. However, consideration of probability does not of itself determine the dollar value of risk. The most likely dollar value of the risk may be estimated by combining the probability of the event and the future cost.

For some permits and licenses, the consequences of a future action may be more important than the known future costs. For example, if the soil was degraded during a forest harvesting operation, it could be many years before the soil completely recovers. In this case, the value of the loss of the degraded asset could be very significant, and could be a major factor in the assessment of risk associated with the license. Additional security might be considered in cases such as this to compensate for the potential lost use of the asset.

Most ministries are using an estimate of future cost as their measure of risk, and therefore as their base from which to set security levels. Related risk factors such as the probability, or consequential effect, of inadequate performance are not formally evaluated. As government policies provide no direction on this, the ministries have no assurance that their practice is in accord with the government's expectations.

Furthermore, in the Environment, Crown Lands, and Forests ministries, the assessment of risk is left to the discretion of regional or district managers. In the absence of guidelines defining the risk elements to be considered, the decisions these managers make may not be based on consideration of the same issues by each manager. As a result, the levels of risk being accepted may differ and may not always be appropriate.

Covering the Risk with Security

The government's general policies specify that security bonding should ensure the financial security of the government, but they do not explain what this means. There is no guidance in the policies about

whether any minimum security should be obtained. We found that the proportion of risk that ministries are covering by security varies from almost 0 to 100%.

At the top end of the range, the Ministry of Energy, Mines and Petroleum Resources is starting to obtain security to cover 100% of the risk associated with the mine permits issued and the related mining operations. The *Mines Act*, passed in July 1989, provides the ministry with the opportunity to begin obtaining security that covers 100% of the estimated costs of completing mine reclamation. The ministry estimates it will take several years to achieve this level of security. However, as the risk associated with some of the ministry's permits is measured in the tens of millions of dollars, the recent change to security levels is a significant move toward providing financial security to the government.

At the other end of the range, the Ministry of Environment does not usually take security from permittees; instead, it relies on its ability to levy fines and penalties. This, however, provides little protection to the government if the permittee does not have funds either to fulfill his permit obligations or to pay the penalty. This ministry has a number of high risk permittees, including those who handle hazardous waste, from whom, until recently, little or no security has been obtained. We noted that some regional offices are now obtaining security from permittees handling hazardous waste.

The need to obtain adequate security was clearly demonstrated in one recent instance. During the 1990 and 1991 fiscal years, the Ministry of Environment and Ministry of Energy, Mines and Petroleum Resources spent more than $1 million to clean up a mine site because the permittee had no funds available. The security held on the permit by the Ministry of Energy, Mines and Petroleum Resources was only $5,000, the maximum that could be held under its legislation at that time. The Ministry of Environment did not obtain any security on the permit it had issued on the mine site. The government is currently reviewing the legal means for pursuing recovery of its costs in this instance.

Reviewing Security Levels

The government's general policies require that ministries review the level of security they require at least once a year to ensure it is adequate. The Ministry of Energy, Mines and Petroleum Resources, and the Ministry of Labour and Consumer Services are doing this in a way that should provide ministry executive with information about the extent to which security levels are adequate. In the other three ministries, Forests, Environment, and Crown Lands, review of required security levels is done at regional and district levels on a frequency that regional or district management feels is appropriate. However, in these ministries, there is no annual, ministry-wide accumulation of total risk levels and related security levels. As a result, ministry executives are not provided with comprehensive information about the adequacy of security levels.

The government's general policies also require that each ministry forward the results of its

annual review to Provincial Treasury. This is not being done. This reporting requirement offers the government an opportunity to gather in one location information about security levels, risk management policies, and the amount of risk being accepted by government. However, because ministries are not providing such information to Provincial Treasury, the government has no central information about the overall risks and the related levels of security held by ministries. It may, therefore, be exposed to a greater extent than it would choose to be if better information were available.

Setting the Type of Security

The government's general policies establish that ministries are responsible for determining the type of security acceptable, where security is required. These include cash, certified cheques, short-term deposits registered in the name of the government, bid bonds, performance bonds, labor and material bonds, assignable bonds or notes assigned to the government, and letters of credit payable to the government.

We found that the types of security being requested by ministries complied with the government policy and allowed the government suitable access to security if required.

Obtaining Security

We found that all the ministries we reviewed had obtained from contractors, permittees and licensees the level and type of security that they had determined were required.

Protecting Security

We found that the Ministry of Transportation and Highways understood the procedures required to protect performance bonding. However, the ministry's application of those procedures for the safekeeping of performance bonds could be improved. Performance bonds, and labor and material payment bonds, except for those relating to road and bridge maintenance contracts, are not held in a secure location such as a safe. Instead, they are kept in contract files in a filing cabinet, where they are susceptible to loss. The ministry believes the bonds are easier to administer if they are kept with the contract documents. While disappearance of a bond would probably not result in financial loss, it could, nevertheless, make it difficult to access related security if required.

We found that the other five ministries were adequately protecting security bonding. They were holding negotiable securities in secure locations, such as financial institutions, or at Provincial Treasury. Where financial institutions held the security, safekeeping agreements between the institution and the ministry were used to protect the ministry's rights and access to the security. The securities were current and free of encumbrances.

The ministries were keeping non-negotiable securities in ministry safes or other secure locations in the ministries or at Provincial Treasury. If non-negotiable security bonding was in the form of guarantees from financial institutions, then ministries were ensuring that their rights and

access to the underlying security were protected adequately.

Accounting for Security

We found that all of the ministries generally were keeping adequate records of securities held, although we noted a few instances where improvements were needed. For example, in the Ministry of Environment, which holds a small number of securities, detailed records were kept for some deposits but not for others. The lack of detailed records increases the risk of error in accounting or loss of security.

We also noted that Provincial Treasury performed a periodic physical count of negotiable security it held on behalf of ministries. Most ministries, however, were not conducting periodic counts of non-negotiable securities they held. If such counts are not carried out and reconciled to ministry records, errors in accounting may occur or the non-negotiable security may be misplaced or lost, without detection.

Finally, we noted that the Ministry of Transportation and Highways has not yet determined how regional offices will be accountable for the administration of security held by them. However, the ministry's regional offices are expected to follow ministry policies for managing performance bonding.

Update on Preceding Year's Study: Accountability of Crown Corporations to the Legislative Assembly

Summary of the Preceding Year's Study

In the 1990 Annual Report of the Auditor General (pp. 201-216), we reported the results of our review of the accountability reporting arrangements for British Columbia's Crown corporations.

We concluded that accountability reporting by the Crown corporations needed some improvements so that the Legislative Assembly could better understand what the corporations were trying to achieve, how well they were actually performing, and, ultimately, how effective they were in achieving their objectives.

We recommended that a framework for accountability reporting be designed for the major Crown corporations. This framework, we suggested, should cover operational and financial information, and future-oriented as well as historical information. No such framework has yet been introduced by the government. We believe, however, that our recommendations remain valid.

In designing a framework for accountability reporting, we suggested that the government consider adopting the approach to effectiveness reporting proposed by the Canadian Comprehensive Auditing Foundation (CCAF). The CCAF, recognizing that effectiveness is a central concern in all parts of the public sector, conducted a major study of what effectiveness means and how it should be reported. The study identified 12 attributes of effectiveness (Table 3.4), and concluded that the onus was on management to make statements about each of these attributes to provide comprehensive information about operating performance.

In our report, we also said that we believed managers of British Columbia's Crown corporations would welcome the opportunity for more extensive public reporting on their activities. The senior executives we spoke with expressed considerable interest in the CCAF's approach to effectiveness reporting, not only as an aid to gathering and organizing material for external reporting, but also as an aid to management. Although much of the required information already exists in some form in most organizations, we believe that dealing with the information in relation to the 12 attributes would encourage managers to make decisions based on pertinent and substantive information, and give them a better understanding of how their organization operates.

TABLE 3.4

The proposed attributes of effectiveness

Source: Canadian Comprehensive Auditing Foundation

Management Direction
The extent to which the objectives of an organization, its management, and employees are clear, well integrated and understood, and appropriately reflected in the organization's plans and structure.

Relevance
The extent to which an activity continues to make sense in regard to the problems or conditions to which it is intended to respond.

Appropriateness
The extent to which the design of an activity and the level of effort being made are logical in light of the specific objectives to be achieved.

Achievement of Intended Results
The extent to which objectives have been realized.

Acceptance
The extent to which customers for whom an activity or line of business is designed judge it to be satisfactory.

Secondary Impacts
The extent to which other significant consequences, either intended or unintended and either positive or negative, have occurred.

Costs and Productivity
The relationships among costs, inputs and outputs.

Responsiveness
An organization's ability to adapt to changes in such factors as markets, competition, available funding, or technology.

Financial Results
The matching of, and the accounting for, revenues and costs, and the accounting for and the valuation of assets, liabilities and equity.

Working Environment
The extent to which an organization provides an appropriate work atmosphere for its employees, provides appropriate opportunities for development and achievement, and promotes commitment, initiative and safety.

Protection of Assets
The extent to which important assets are safeguarded.

Monitoring and Reporting
The extent to which an organization monitors and reports on its own effectiveness.

Current Developments

A number of Crown corporations have asked our Office to help them explore further the applicability of the effectiveness reporting concepts to their organizations. As a result, in the last year we have made several introductory presentations and held a number of more detailed one-day workshops with senior management groups.

The CCAF's approach to effectiveness reporting was designed for the public sector generally, and so it is relevant to all government activities. In addition to the interest shown by Crown corporations, several other developments are currently underway in this area.

For example, a committee representing the province's community colleges and institutes is conducting applied research into accountability. This research, which is being assisted by our Office on behalf of the CCAF, is directed at developing performance indicators for colleges and institutes and examining ways of adapting the CCAF's suggested effectiveness attributes to the needs of these institutions.

Work is also in progress to review the applicability of the attributes to the health care sector in British Columbia and nationally. And, at a recent national workshop on university accountability, sponsored by the Institute for Research into Public Policy, the attributes were again discussed.

We have also introduced the CCAF material to some government ministries, and hope to have the opportunity to do so with more ministries in the coming year.

Looking Ahead

We have a strong interest in promoting good accountability within the public sector in British Columbia, and believe the CCAF's approach to effectiveness reporting has the potential to result in significant improvements. We are impressed by the positive reaction to the approach from the organizations we have talked to. We look forward to continuing our work with the Crown corporations and others to help in their quest for better accountability.

Updated Responses to Preceding Year's Compliance, Control, and Accountability Audits

At the conclusion of our audits, where it is feasible and appropriate to do so, we provide those ministry officials responsible for managing the programs or activities under review with an opportunity to respond to our audit comments. These responses are published immediately following the related item in our Annual Report.

Since these responses are normally made soon after the completion of our audits, management is usually only able to outline its plans to resolve the matters we have raised. We feel that legislators and the public would be better informed if they were provided with a more complete picture of the nature, extent, and results of management's remedial action. Accordingly, we have invited ministries to provide updates to the responses published in last year's Annual Report. These are reproduced below.

Ministry of Finance and Corporate Relations

Ministry Accounts Receivable Management

Since the recommendations by the Auditor General were made in the 1990 Auditor General Annual Report, the following steps have been taken to improve the management of receivables by government:

- *alternative collection methods are being used by several ministries ($3.4 million was collected in the 1990/91 fiscal year through set-off action);*
- *the Loans Administration Branch has been established in the Ministry of Finance and Corporate Relations to actively pursue the collection of outstanding loans for certain programs in government (e.g. Student Loans Program);*
- *aged accounts receivable reports are now received regularly on a quarterly basis from ministries and are reviewed on a regular basis by OCG staff;*
- *credit management policies have been implemented by those ministries extending credit; and,*
- *the Revenue Managers Council, with representation from all ministries, is developing solutions to these and other revenue management issues.*

Through these initiatives, the Office of the Comptroller General and the ministries will continue to improve the management of receivables.

Home Mortgage Accounting System

The Auditor General indicated in his Annual Report to the Legislative Assembly that further development of the Home Mortgage Accounts System policies and procedures was required, relative to delinquent accounts, in order to maximize collection. We are pleased to report our progress in this area:

1. *Policy Development: a definitive policy has been developed relating to the processing of incoming foreclosure petitions.*

2. *Improved Procedures: a new account classification system has been designed for inclusion in the Loan Administration System, (LAS). LAS is the new computer system currently under development in the branch. This classification system will greatly enhance the branch's ability to focus on accounts with the greatest collection potential.*

   Pending implementation of the new LAS, scheduled for the summer of 1991, a manual system has been introduced to deal with this matter on a interim basis.

3. *Improved Procedures: to maximize collection potential, the Branch has implemented a tracking system to monitor judgments registered against property in the Land Title Office (LTO). The purpose of the system is to ensure that all judgments registered at LTO as security of the Crown's interests, are renewed will in advance of their expiry date. While the system is currently manual, provisions are being made to automate the procedure in the LAS.*

The Loan Administration Branch (LAB) expects that LAS, will bring considerably increased efficiency and effectiveness to the branch's loan administration and loan collection functions. As well, the system will provide enhanced financial reporting capabilities.

LAB is currently holding discussions with the Office of the Comptroller General concerning write-off and earning status of loans administered by the branch. We expect a policy in place by the end of the current fiscal year.

Ministry of Health

Pharmacare Processing of Payment Claims from Pharmacies

There were six (6) recommendations included in the 1990 Auditor General's Report.

1. *Application of Government write-off policies and interest charges, should be applied to small and large amounts, respectively.*

   Pharmacare will apply the Financial Administration Act Regulations.

2. *Review of data files containing unpaid claims should be more timely.*

   Corrections is requesting the "To Date Rejection Report" on a more routine basis (quarterly) but we also expect suppliers, with unpaid invoices, to enquire should an invoice appear to have been overlooked.

3. *Pharmacare should provide tighter controls for claims which may be excessive.*

Completion date of the system enhancements is targeted for March 31, 1991.

4. *Overrides of edited information should be more closely supervised and monitored.*

   We have investigated the development of a system to log all overrides to a file, which could be routinely printed and reviewed by a supervisor.

5. *Master file updating requires timely and appropriate level of review and approval.*

   Master file updates will be provided on a weekly basis for review by a supervisor, effective February 28, 1991.

6. *Access to systems files and programs should be more restrictive, and the systems should detect, log, and follow up on unauthorized access.*

   B.C. Systems Corporation Security Division, has implemented a control of security access to files and programs using RACF Software.

   Programmer work is checked within the Pharmacare support unit, by comparing old programs to new programs after any changes, in order to ensure only the requested changes have in fact been implemented.

   We are awaiting further advice from the Office of the Auditor General regarding any additional controls used in other Datapoint environments.

Ministry of Environment

Wildlife Act—Licence Fee Revenue

The Ministry has been working closely with the Government Agents Branch with regard to the establishment of formal policies and procedures to enable sound inventory management and control. We are pleased to report that substantial progress has been made although a few issues have yet to be resolved.

Our Ministry's comments on your detailed findings and recommendations will follow shortly.

With regard to the review of fees and licences under the Wildlife Act, we are pleased to report that the review has been completed.

We wish to thank you and your staff for the work undertaken in this matter.

Superannuation Commission

Long Term Disability Plan Benefit Payments

The Superannuation Commission instituted control procedures to address weaknesses identified in your Internal Control Review of the Long Term Disability Plan Benefit Payments. The Commission also met with the Plan carrier to change procedures and to ask that the carrier improve its control and reporting procedures. Progress was made in this regard.

The Commission will continue to improve the control functions by working with the Plan carrier and the Office of the Auditor General. As recommended, computerization will be further evaluated and implemented if so required.

Ministry of Advanced Education, Training and Technology

Student Financial Assistance

We appreciate the opportunity to provide an updated response to the findings and recommendations contained in your internal control review of the post-secondary student financial assistance program.

The observations contained in your review are being addressed in the redevelopment of the Student Financial Assistance System. Your recommendations are an integral part of the specifications for the system, which has now reached the design phase. As part of the system redevelopment, control processes and standards are being fully documented, including those concerning evidence standards and effective supervision.

The Ministry, on behalf of the Student Services Branch, has also formally requested additional staff resources which would be allocated to the audit verification of processed applications, in order to minimize the risk that incorrect assessments could be accepted by the Branch. It is hoped that the request will be given positive consideration as part of the 1991/92 budget process.

Ministry of Solicitor General

Public Gaming – Licensing and Control

Progress Report on Public Gaming

Early in 1990, the Auditor General of British Columbia reported on his examination of the Public Gaming Branch. The Branch responded to several areas identified as concerns at that time.

The Ministry was also requested to report back to the Auditor General again at the end of the 1990/91 fiscal year. That report follows, indicating initiatives which have been implemented, are in progress, and will be implemented shortly:

Ensuring Complete Licence Applications

A written assessment, supporting the Licensing Officer's recommendation to licence, is now in place with each application processed.

A standard review checklist is used by the Licensing Clerks to ensure that all required information is available as part of each application review.

Application forms have been revised to clarify the Branch's requirements for supporting documentation and to communicate the criteria for licence eligibility and the restrictions on use of gaming proceeds. The new applications will be available April 1, 1991.

A common licensing year has been established in 30 of the 48 bingo halls. Full implementation will be in place by June, 1992. The common licensing year enables:

- *a more even flow of work through Licensing;*
- *a more equitable distribution of gaming opportunities within each community;*
- *less multiplicity of licensing among related organizations; and*
- *less overlap in the intended use of proceeds within the community.*

Training

Several Licensing Officers have recently completed formal training in basic accounting techniques.

Five Inspection staff completed a five-day course in analytical investigation methods in June, 1990.

Half of the Licensing and Inspection Officers completed a four-day course in basic investigation techniques presented by the Justice Institute in November, 1990. Presentation to the remaining operational staff was cancelled with the restraint initiatives implemented in November.

The basic investigation course will be rewritten by Branch staff to focus on gaming requirements and it is intended that this course will be available in-house by Fall, 1991. The course will be expanded to include basic financial analysis techniques.

A two day course on analyzing financial statements for the non-accountant, with a focus on non-profit organizations, is available in the 1991/92 fiscal year. It is intended that the course be jointly facilitated by the Lottery Grants Branch and the Public Gaming Branch. Eight staff will participate in the initial course.

Three staff from the Inspections and Investigations Division and one from the Licensing Division attended a three-week basic training course sponsored by the Nevada Gaming Control Branch in 1990.

Approval has been received for two additional inspection staff to attend the Nevada basic training course in 1991. Conversely, having two instructors from Nevada come to B.C. to instruct staff is also being explored.

Financial Need and Use of Proceeds

Since the Spring of 1990, Licensing Officers have been using a working capital turnover ratio as a guideline in assessing an applicant's financial need.

Exposure to the two-day course on analyzing financial statements will enable the financial officers to develop further desk procedures to assist them in assessing financial need.

Revised reporting requirements for licensees will be implemented April 1, 1991, in conjunction with revised Terms and Conditions. The use of gaming proceeds will now be a separate report specifically correlated to the licensee's fiscal year.

Effective March 1, 1991, review procedures on the reported use of proceeds will become a licensing responsibility, effectively ensuring a compliance review prior to, and as part of, the relicensing process.

Minimum Returns

By March 31, 1991, an assessment of casino management operations costs will be completed. This assessment and the impact of GST will be used to evaluate the appropriateness of the return to casino licensees. It is anticipated that this

evaluation, together with reporting guidelines to casino management companies, will be completed by August, 1991.

A rent review committee has been formed by the Branch to assess the parameters of rental charges for bingo premises. This report will be completed by April, 1991. The pressures of wages and GST expenses will be evaluated in conjunction with the report on rental fees in order to assess the appropriateness of the return to bingo licensees. A report and recommendation will be made to the Commission by June, 1991.

An assessment was made of the return to ticket licensees in the Spring of 1990. As a result of that assessment, the minimum return was reduced to 25% from the previous 35%.

Standard casino procedures were introduced in the Summer of 1989, and have been monitored. In August, 1990, the casino procedures were revised to provide for more efficient and effective casino operations.

Standard procedures for bingo are in the draft stage. Completion date is targeted for June, 1991, with full implementation and training in place by September 30, 1991.

Casino volunteer orientation was implemented in December, 1989. To date, over 7,000 licensees have taken the orientation program and, as a result, are better equipped to manage their casino licences.

Standard operating procedures, event control forms, and reporting forms emphasize and utilize two basic internal controls—review by licensees and separation of incompatible functions. Both the casino and bingo orientation programs emphasize the licensee's responsibility and need to participate in key areas of the gaming events—the control of cash, chips and bingo paper.

Inspections

A comprehensive inspection strategy was introduced in May, 1989. At present, the inspection focus is on the timeliness of deposits and the use of gaming proceeds. In 88/89, 12 incidents of theft and embezzlement were uncovered, totalling $74,000. After the implementation of the inspection strategy, in 89/90, 21 incidents totalling $225,718 were uncovered.

Since 1988, all casinos report event activity on a weekly basis. Since August, 1990, all bingos operating from bingo halls report event activity on a monthly basis. These reports are monitored by inspection staff and form the basis of our provincial gaming statistics. By 1992, exception reporting will be available, highlighting those events that fall outside acceptable operational parameters.

Reporting to the Public

Both event reporting and revenue reporting are presently processed independently of the Branch's Gaming Event Management Computer System (GEMS). In fiscal 1991, both these processes will go on-line and become part of the GEMS system.

The feasibility of cataloguing use of proceeds as part of the information system will be explored in fiscal 1991.

By fiscal 1992, public reports will be available listing each licensee, together with the number of licences issued and the amount of money generated. As part of the

provincial picture, it is anticipated that the Branch will also be able to report the use to which those funds have been put.

Progress in attaining specific goals has, at times, been slow. In many instances, new initiatives arose as current initiatives were being developed. In spite of limitations in resources and funding, significant progress has been made in all areas, and we are encouraged by the results.

Ministry of Provincial Secretary

The Lottery Fund – An Audit of the Granting Process

In responding to our request for an update on last year's response, ministry officials stated that they consider their original response to be complete, in that it indicated that corrective action had been taken by the ministry on all points raised in our report.

Part IV: Office of the Auditor General

Part IV: Office of the Auditor General

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Role and Responsibilities of the Auditor General

The legislative mandate for the activities of the Office comes from the *Auditor General Act*, which came into force in 1976.

Details of the Auditor General's responsibilities, as set out in the Act, appear in Appendix A. A more concise description of the role of the Auditor General is found in the Office's Mission Statement, which reads:

MISSION STATEMENT

The Auditor General serves the citizens of the Province by providing independent opinions and evaluations on the financial and administrative management of the government and its related entities in the public sector. As well, he promotes improvement in public sector accountability.

To fulfill his responsibilities, the Auditor General has established a professional office committed to the principles of objectivity, integrity, and service to the public.

Comments expanding on the various aspects of the Mission Statement are presented in Appendix B.

Public Information Program

During 1990, the Office began an information program designed to explain the role and responsibilities of the Auditor General. It was aimed at a wide audience in both the public and private sectors, and took the form of a brochure complemented by an informational video.

These media have since been used frequently by the Auditor General and senior staff members at meetings, conferences and seminars. They have also proven valuable for recruiting and training staff.

In a competition run by *The Bottom Line*, a news and information publication for Canada's accounting profession, our brochure rated a special mention among 30 entries, as follows:

> One entry that deserves special mention was submitted by the Office of the Auditor General of B.C., along with a video elaborating on the brochure contents. Although it did not technically fit into the (accounting) firm brochure concept, it was judged to be one of the most effective entries in the competition. It is attractive, concise, and leaves the reader with a good understanding of the role of the auditor general.

As part of the information program, a logo was designed to illustrate the three pillars of our audit practice: financial statement attestation, compliance with authorities, and value for money. The logo, which appears throughout this report, is shown below.

Operation of the Office

Organization

The Office is organized into four divisions. Three of these, each under an Executive Director, deal mainly with the Office's audit operations. They are:

- the Central Attest Audit Division, which is responsible for coordinating the audit of the government's financial statements, and for developing methodology and practices for these audits;
- the Crown Entity Attest Audit Division, which is responsible for undertaking most of the public body financial audits assigned to the Office, and for the developing methodology and practices for those audits; and
- the Value-for-Money Audit Division, which carries out value-for-money audits and special projects.

The fourth division, which is a responsibility of the Deputy Auditor General, is concerned with the administrative, financial and information technology activities of the Office. Figure 4.1 provides an overview of the Office's organization as at December 31, 1990.

This organization remained essentially unchanged during the year, with one exception. The special projects audit activity was transferred to the Value-for-Money Audit Division in late 1990, to group related activities and provide greater flexibility in the allocation of staff resources.

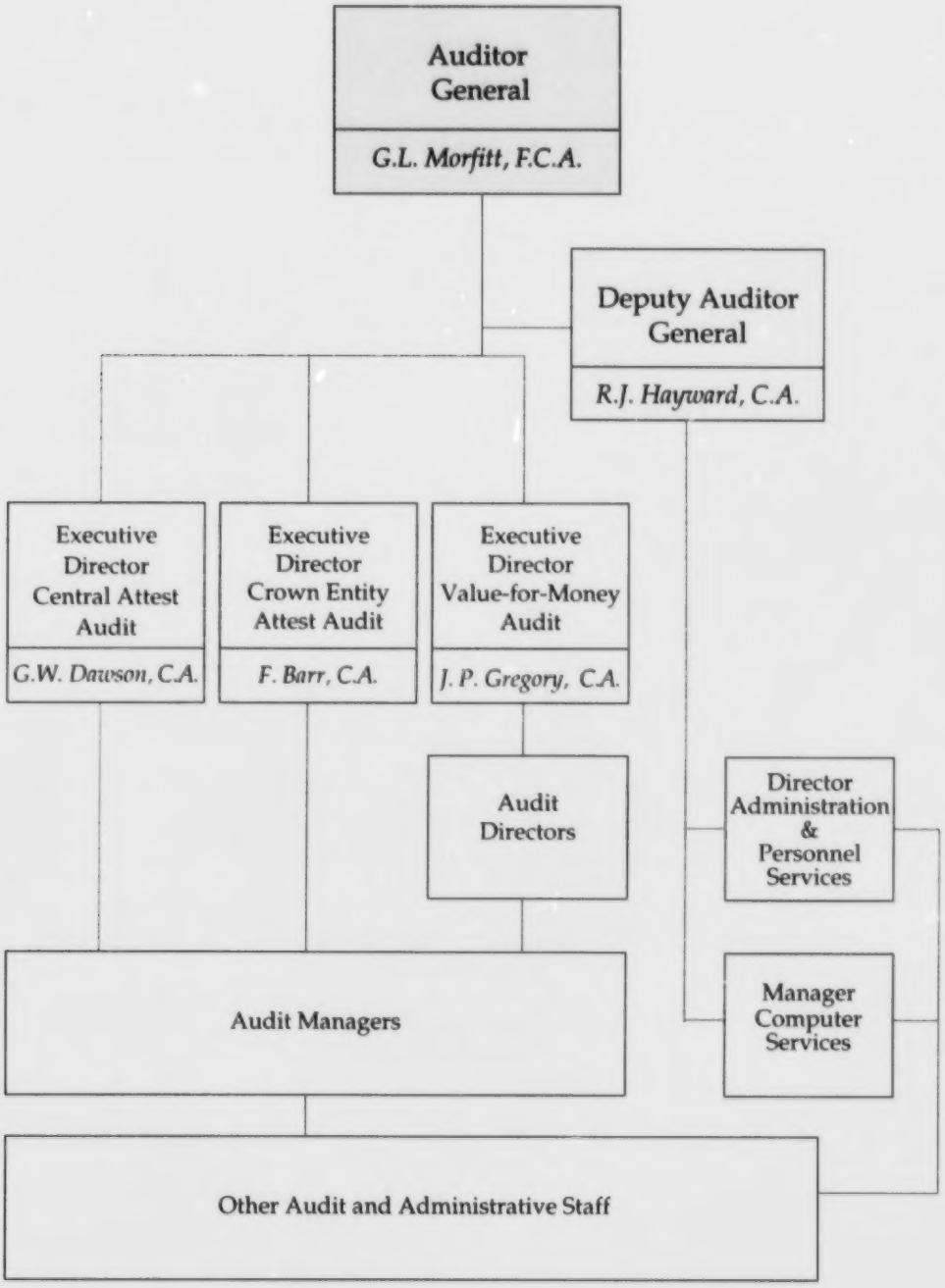
Personnel

The Office of the Auditor General employed 94 staff at December 31, 1990, of whom 6 were on secondment to various government ministries. Of the total staff, 53 had professional or other advanced academic qualifications and a further 29 were students enrolled in programs leading to recognized accounting designations. Administrative, clerical and computer technology staff made up the remaining personnel of the Office. In addition to the employed staff, consultants and specialist staff were occasionally engaged on short-term contracts to provide other skills and expertise.

The Office continued to experience a relatively high rate (17%) of staff turnover during 1990. While staff losses do place a drain on our resources, it is gratifying to note that

ORGANIZATION OF THE OFFICE OF THE AUDITOR GENERAL
DECEMBER 1990

FIGURE 4.1



most of those leaving our employ have moved to positions in various government ministries and public bodies.

Recruitment necessary to maintain our staffing occurred on two fronts. During the year we hired seven staff with professional qualifications. In addition, we continued to recruit on university campuses for superior candidates interested in pursuing programs leading to professional accounting qualifications. We hired 10 new staff in this process during the year.

Part of our personnel development plan has involved the expansion of our staff secondment program. As previously mentioned, six of our employees were on secondment to various government ministries as at December 31, 1990. This program serves to broaden the experience of our staff so that they may become more familiar with the operating aspects of government, and thereby contribute to the effectiveness of our future audit work.

Finance

Net expenditures for the operation of the Office for the fiscal year ended March 31, 1990, were $5,640,952, made up as follows:

Salaries and benefits	$4,425,085
Operating costs	996,654
Asset acquisitions	196,592
Grants and contributions	42,600
	5,660,931
Recoveries	19,979
	$5,640,952

The accounts of the Office of the Auditor General are audited by an auditor appointed by the Treasury Board. The auditor's report on the accounts of the Office for the fiscal year ended March 31, 1990, was tabled in the Legislative Assembly by the Speaker on March 12, 1991.

The staffing situation of the Office continues to be a matter of concern. Five positions authorized in the 1985/86 fiscal year and subsequently deleted from the Office's staff complement for the 1987/88 fiscal year have not, to date, been restored. This has occurred despite the fact that the total dollars subject to audit have increased over 70%, from $88 billion in 1985/86, to an estimated $150 billion in the 1990/91 fiscal year.

Our 1991/92 budget request again proposes that the five positions be restored. At the time of this report, we are not aware of the government's decision in this matter. However, we are concerned that a continuation of this staffing limitation will increasingly impede the Office's ability to carry out essential value-for-money, internal control, and legislative compliance audit work.

Professional Development and Training

An important measure of a professional office is its ability to maintain a high standard of performance in its field of endeavor. Accordingly, we are committed to an extensive program of staff training and professional development in all aspects of legislative auditing. In addition to the normal training that is required for the conduct of financial

audits, the Office undertakes to develop expertise in the unique areas of value-for-money auditing and auditing for legislative compliance. During the year, each staff member received an average of 40 hours of professional development and training.

Our program follows two main streams, the first designed for our professionally qualified staff, and the second for our student-level staff. In addition, several course offerings of broad general interest are made available to all staff.

For our professional staff we provide accounting and auditing courses of an advanced technical nature, courses on supervisory and interpersonal skills, and various courses on microcomputers and computer auditing.

Staff at the student level, in addition to receiving instruction on matters specific to the work of the Office, are enrolled in courses leading to the professional designations awarded by the Institute of Chartered Accountants or the Certified General Accountants Association. During the year, five staff members successfully completed the academic requirements for their professional accounting designations.

Information Technology

Ministries of government, Crown corporations, and other public bodies audited by the Office increasingly rely on electronic technology in the conduct of their business affairs. During the 1989/90 fiscal year, government ministries spent $109 million for the operating expenses of information systems, and $76 million for the acquisition of data and word processing equipment and associated software. The comparable expenditures in the 1985/86 fiscal year were $61 million and $21 million, respectively. Collectively, this cost increase of 125% over the course of five years is almost three times the rate of increase in overall government spending, and is indicative of the growth that has occurred in this particular sphere of activity.

Auditing in this environment calls for staff who are trained and equipped to analyze complex computer-based systems, and deal with accounting records which are largely maintained in electronic form. Accordingly, we endeavor to ensure that all staff achieve a reasonable level of computer literacy, and are supported by specialist staff with a full spectrum of knowledge in this field. We have also tried, within the confines of continuing budgetary restraint, to equip our staff with the microcomputers and other equipment necessary to carry out this work.

Recognizing that dramatic advances have been occurring in the field of information technology, we commissioned a firm of independent consultants to prepare an Information Technology Plan for the Office. Their report, delivered to us in late 1990, confirmed the general direction now being pursued by the Office, recommended further initiatives, and advised timely implementation of the plan. A request for funding the first year of the plan has been included in the Office's budget request for the 1991/92 fiscal year.

Professional Activities

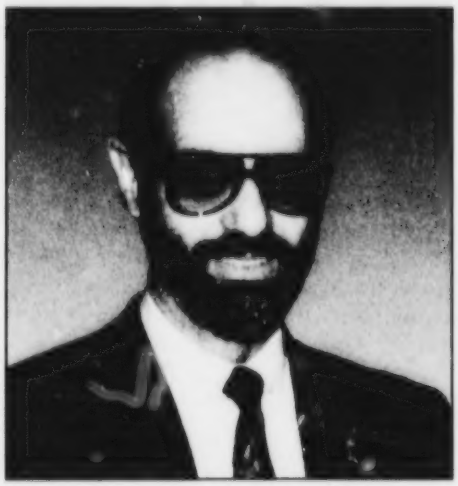
Employees of the Office are actively involved with a number of professional and other associations whose activities are relevant to the work of the Office. For some, this involvement takes the form of executive and committee work; for others it entails research and other projects of a technical nature. These organizations include the following:

- Institute of Chartered Accountants of British Columbia
- Certified General Accountants Association of British Columbia
- Society of Management Accountants of British Columbia
- Canadian Comprehensive Auditing Foundation
- Canadian Evaluation Society
- EDP Auditors Association
- Financial Management Institute of Canada
- Institute of Internal Auditors
- Institute of Public Administration of Canada
- Law Society of British Columbia

Community Service

Employees of the Office are also involved with and support many charitable, service and community organizations which serve to make life better for those less fortunate, or enhance the quality of life in the community. Often this means actual volunteer work, while at other times it involves the raising or donation of funds.

We are proud of the accomplishments of our staff, especially considering the relatively small size of our Office. With regard to their fund-raising activities we note that, during the past two years, they have raised over $5,000 for Christmas charities through an annual Office gift auction. In addition, for 1991, our employees have pledged charitable donations of $11,750 through the Provincial Government Employees' Community Services Fund. The Office was presented with an award in recognition of its high rate of participation in the Fund—over 90%.



Pictured here is Mr. Michael Maglio, our Manager, Finance and Administration, who headed our charity effort, and who accepted the award on our behalf. We note also that Mr. Maglio was recently honored for his 25 years of service to the Province of British Columbia, the first employee of the Office to reach this milestone.

Advisory Council

Several senior members of the accounting profession have served on a council of advisors to the Auditor General during the past year. Their valued contribution to the work of the Office is greatly appreciated.

Professional Affiliations of the Office

In addition to the involvement of individual staff members in various associations, the Office actively supports and participates in the work of three organizations whose aims are closely linked to those of the Office.

Canadian Conference of Legislative Auditors

The Canadian Conference of Legislative Auditors is an association of auditors general and provincial auditors from the federal and provincial jurisdictions of Canada. Meetings are held annually so that those actively involved in legislative auditing can exchange information and experiences. Three members of our staff attended the 18th annual meeting held in July 1990 in St. John's, Newfoundland.

The Canadian Council of Public Accounts Committees, made up of representatives from all the senior legislatures across the country, also met in St. John's at that time. A joint session of the legislators and auditors provided the opportunity for a useful exchange of views on subjects of mutual interest.

Canadian Comprehensive Auditing Foundation

The Canadian Comprehensive Auditing Foundation is a national cooperative association established to help strengthen management, accountability and auditing in the public sector. Its interests extend to all organizations that are sustained by public funds to carry out public policy objectives.

The Foundation's work concentrates on the ways in which managers can ensure that good value for money is obtained from their administrative practices; on the manner in which managers report their accountability for achieving economy, efficiency and effectiveness; and on the role audit plays in reporting.

The Office has been a member and supporter of the Foundation since its formation in 1980. The Auditor General is an elected member of its Board of Governors.

Public Sector Accounting and Auditing Committee

The Canadian Institute of Chartered Accountants formed the Public Sector Accounting and Auditing Committee (PSAAC) in 1981 with the objective of improving and harmonizing public sector financial reporting, accounting and auditing practices. The Committee, made up of representatives from various levels of government, the accounting community, and other interested parties, carries out research and periodically issues recommendations on matters pertaining to these areas of interest.

To date, seven Public Sector Accounting Statements, four Public Sector Auditing Statements and two Public Sector Auditing Guidelines have been issued. These are now serving as authoritative references for those involved in accounting and auditing at the federal, provincial, and local levels of government throughout Canada. As well, several major research projects are in progress.

This Office actively supports the work of the Committee by studying and commenting on its research work. The Auditor General is currently serving as a member of PSAAC.

Relations with the Public Accounts Committee

The *Auditor General Act* requires that the Annual Report of the Auditor General, after being tabled in the Legislative Assembly, be referred to the Public Accounts Committee. That Committee, made up of a cross-section of members of the Assembly, is empowered to examine and enquire into those matters referred to it by the Assembly. Traditionally, a major portion of the Committee's deliberations relates to the information contained in the Auditor General's Annual Report.

The consideration given to the report by the Committee plays a major role in ensuring that the public accountability obligations of ministries and agencies are properly exercised.

The last Annual Report of the Auditor General was tabled in the Legislative Assembly on May 1, 1990. Discussion on its content by the Public Accounts Committee began on May 8, 1990, and continued over 10 meetings to July 24, 1990. The Auditor General and senior members of his staff attended all these meetings, and provided explanations and analysis on various matters being reviewed by the Committee.

The Committee issued a report on its activities, which was tabled in the Legislative Assembly on July 25, 1990. None of the recommendations contained in the Committee's report related specifically to audit matters.

Appendices

Appendices

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Appendix A

Auditor General Act

Interpretation

1. In this Act
"ministry" means a ministry or branch of the executive government of the Province;
"public body" means
(a) an agency of the Crown;
(b) a board, commission, council or other body of persons, whether or not incorporated, all the members of which or all the members of the board of management or board of directors of which are appointed by an Act, an order of the Lieutenant Governor in Council or a minister of the Crown;
(c) a corporation, more than 50% of the shares or ownership of which is, directly or indirectly, vested in the Crown; or
(d) a corporation, association, board, commission or society to which a grant or advance of public money is made, or the borrowings of which may be guaranteed by the Crown under the authority of any Act;
and all other words have the same meaning as they have in the *Financial Administration Act*.

Appointment, salary, term and pension

2. (1) The Lieutenant Governor shall, on the recommendation of the Legislative Assembly, appoint as an officer of the Legislature, a person as Auditor General to exercise the powers and perform the duties assigned to him under this Act.

(2) The Legislative Assembly shall not recommend a person to be appointed as Auditor General unless a special committee of the Legislative Assembly has unanimously recommended to the Legislative Assembly that the person be appointed.

(3) The Auditor General shall be appointed for a term of 6 years and he may be reappointed in the manner provided in this section for further 6 year terms.

(4) The Auditor General shall be paid, out of the consolidated revenue fund, a salary in an amount equal to the salary paid to the chief judge of the Provincial Court of British Columbia.

(5) The Auditor General shall be reimbursed for reasonable travelling and out of pocket expenses necessarily incurred by him in discharging his duties.

(6) Subject to subsections (7) to (10.1), the *Pension (Public Service) Act* applies to the Auditor General.

(7) An Auditor General who retires, is retired or removed from office after at least 10 years' service shall be granted an annual pension payable on or after attaining age 60.

(8) Where an Auditor General who has served at least 5 years is removed from office by reason of a physical or mental disability, section 19 of the *Pension (Public Service) Act* applies and he is entitled to a superannuation allowance commencing on the first day of the month following his removal.

(9) Where an Auditor General who has served at least 5 years dies in

office, section 20 of the *Pension (Public Service) Act* applies and the surviving spouse of the Auditor General is entitled to a superannuation allowance commencing on the first day of the month following the death.

(10) When calculating the amount of a superannuation allowance under subsection (7), (8) or (9),

(a) each year of service as Auditor General shall be counted as 1 1/2 years of pensionable service.

(b) [Repealed 1988-52-1.]

(10.1) Subsection (10) does not apply to the calculation under section 6(5) of the *Pension (Public Service) Act*.

(11) Before beginning to perform his duties, the Auditor General shall take an oath before the Clerk of the Legislative Assembly that he will faithfully and impartially exercise the powers and perform the duties of his office.

Resignation, removal or suspension

3. (1) The Auditor General may at any time resign his office by written notice to the Speaker of the Legislative Assembly or to the Clerk of the Legislative Assembly if there is no Speaker or if the Speaker is absent from the Province.

(2) On the recommendation of the Legislative Assembly, based on cause or incapacity, the Lieutenant Governor shall

(a) suspend the Auditor General, with or without salary; or

(b) remove the Auditor General from his office

in accordance with the recommendation.

(3) Where the Auditor General is suspended or removed from office or the office of Auditor General becomes vacant, the Lieutenant Governor shall, on the recommendation of the Legislative Assembly, appoint an acting Auditor General to hold office until the end of the period of suspension of the Auditor General or until an Auditor General is appointed under this Act, as the case may be.

(4) When the Legislature is not sitting and is not scheduled to sit within the next 5 days, the Lieutenant Governor in Council may, with or without salary, suspend the Auditor General from his office for cause or incapacity but the suspension shall not continue in force after the expiry of 20 sitting days.

Acting Auditor General

4. (1) Where

(a) the Auditor General is suspended or removed or the Office of Auditor General becomes vacant when the Legislature is sitting but no recommendation under this Act is made by the Legislative Assembly before the end of that session; or

(b) the Auditor General is suspended or the office of Auditor General becomes vacant when the Legislature is not sitting,

the Lieutenant Governor in Council may appoint an acting Auditor General.

(2) The appointment of an acting Auditor General under this section terminates

(a) on the appointment of a new Auditor General under section 2;

(b) at the end of the period of suspension of the Auditor General; or
(c) immediately after the expiry of 20 sitting days after the day on which he was appointed

which ever the case may be and whichever occurs first.

Staff

5. (1) The Auditor General may appoint, in accordance with the *Public Service Act*, a deputy Auditor General and other employees necessary to enable him to perform his duties.

(2) For the purpose of the application of the *Public Service Act* to this section, the Auditor General shall be deemed to be a deputy minister.

(3) Notwithstanding the *Public Service Act*, the Auditor General may engage and retain specialists and consultants as may be required to carry out his functions, and may determine their remuneration.

(4) [Repealed 1985-15-19, effective March 2, 1987 (B.C. Reg. 248/86).]

(5) The Auditor General may make a special report to the Legislative Assembly where

(a) the amounts and establishment provided for the office of the Auditor General in the estimates; or
(b) the services provided to him by the Government Personnel Services Division,

are, in his opinion, inadequate to enable him to fulfil his duties.

Examination of accounts

6. (1) The Auditor General shall examine in the manner he considers necessary the accounts and records of the government relating to the consolidated revenue fund and all public money, including trust and special funds under the management of the government, and to public property.

(2) Notwithstanding any other Act, the Auditor General

(a) shall be given access to the records of account and administration of any ministry; and
(b) may require and receive from any person in the public service, information, reports and explanations necessary for the performance of his duties.

Report on financial statements

7. (1) The Auditor General shall report annually to the Legislative Assembly on the financial statements of the government, including those required by section 8(2) of the *Financial Administration Act*, respecting the fiscal year then ended.

(2) The report shall form part of the public accounts and shall state

(a) whether he has received all of the information and explanations he has required; and
(b) whether in his opinion, the financial statements present fairly the financial position, results of operations and changes in financial position of the government in accordance with the stated accounting policies and as to whether they are on a basis consistent with that of the preceding year.

(3) Where the report of the Auditor General does not contain the

unqualified opinion required under this section, the Auditor General shall state the reasons why.

Annual report

8. (1) The Auditor General shall report annually to the Legislative Assembly on the work of his office and call attention to anything resulting from his examination that he considers should be brought to the attention of the Legislative Assembly including any case where he has observed that

(a) accounts have not been faithfully and properly kept or public money has not been fully accounted for;
(b) essential records have not been maintained;
(c) the rules, procedures or systems of internal control applied have been insufficient
  (i) to safeguard and protect the assets of the Crown;
  (ii) to secure an effective check on the assessment, collection and proper allocation of the revenue;
  (iii) to ensure that expenditures have been made only as authorized; or
  (iv) to ensure the accuracy and reliability of the accounting data; or
(d) public money has been expended for purposes other than for which it was appropriated by the Legislature.

(2) In the report the Auditor General may also include an assessment

(a) as to whether the financial statements of the government are prepared in accordance with the most appropriate basis of accounting for the purpose of fair presentation and disclosure; or
(b) as to whether any program being administered by a ministry is being administered economically and efficiently.

Trivial matters

9. The Auditor General need not report to the Legislative Assembly on any matter he considers immaterial or insignificant.

Submission of annual report

10. (1) A report of the Auditor General to the Legislative Assembly shall be submitted by him through the Minister of Finance.

(2) On receipt of a report of the Auditor General, the Minister of Finance shall lay the report before the Legislative Assembly as soon as possible.

(3) If the Minister of Finance does not lay the report before the Legislative Assembly on the first sitting day following the receipt of the report by him, the Auditor General shall transmit the report to the Speaker and the Speaker shall lay the report before the Legislative Assembly.

(4) On being laid before the Legislative Assembly, the annual report of the Auditor General shall be referred to the Public Accounts Committee of the Legislative Assembly.

Special report

11. The Auditor General may at any time make a special report to the Legislative Assembly on a matter of primary importance or urgency that, in his opinion, should not be deferred until he makes his annual report.

Other reports

12. The Auditor General may at any time make a report to the Minister of Finance, the Treasury Board, the Lieutenant Governor in Council, or any public officer on any matter that in the opinion of the Auditor General should be brought to his or their attention.

Special assignments

13. The Auditor General may undertake special assignments at the request of the Lieutenant Governor in Council, but he is under no obligation to carry out any requested assignment if, in his opinion, it would interfere with his primary responsibilities.

Staff in ministries

14. (1) The Auditor General may station in any ministry a person employed in his office to enable him to more effectively carry out his duties, and the ministry shall provide the necessary office accommodation for a person so stationed.

(2) The Auditor General shall require every person employed in his office who is to examine the accounts or the administration of a ministry pursuant to this Act to comply with any security requirements applicable to, and to take any oath of secrecy required to be taken by, persons employed in that ministry.

Inquiry powers

15. The Auditor General may examine any person on oath on any matter pertaining to his responsibilities and for that examination the Auditor General has all the powers, protection and privileges of a commissioner under sections 12, 15 and 16 of the *Inquiry Act*.

Public bodies

16. (1) Notwithstanding any other Act, where the Auditor General is not the auditor of a public body,

(a) the public body shall, on the request of the Auditor General, supply the Auditor General with a copy of all financial statements and reports relating to the public body;

(b) the auditor of the public body shall, on the request of the Auditor General, make available to the Auditor General, within a reasonable time, all working papers, reports and other documents in his possession relating to the public body; and

(c) the Auditor General may conduct examinations of the records and operations of the public body he considers necessary or advisable to carry out his duties under this Act.

(2) Notwithstanding any other Act, the Auditor General

(a) shall be given access to the records of account and administration of any public body; and

(b) may require and receive from any officer or

employee of a public body information reports and information necessary for the performance of his duties.

Eligibility as auditor

17. Notwithstanding any other Act, the Auditor General is eligible to be appointed the auditor, or a joint auditor, of a Crown corporation, Crown agency or public body.

Transfer of audit duties

18. The Lieutenant Governor in Council may transfer to the Auditor General the duty imposed by any Act on a person to conduct an audit.

Audit of accounts of Auditor General

19. (1) The Treasury Board shall appoint an auditor to audit the accounts of the office of Auditor General annually.

(2) The auditor appointed under this section shall certify the accounts of the office of Auditor General that he finds to be correct and shall report the result of his audit to the Speaker, who shall present it to the Legislative Assembly.

Appropriation

20. Money required for the purposes of this Act shall be paid out of money authorized by an Act of the Legislature.

Appendix B

Mission Statement

The formal mandate of the Auditor General has been prescribed by the Legislative Assembly in the *Auditor General Act*, a copy of which is presented in Appendix A to this report.

Based on the requirements of that Act, and reflecting the concepts and practices that have evolved over time, a Mission Statement has been developed to concisely describe the role of the Auditor General, and the means employed to carry out this role.

MISSION STATEMENT

The Auditor General serves the citizens of the Province by providing independent opinions and evaluations on the financial and administrative management of the government and its related entities in the public sector. As well, he promotes improvement in public sector accountability.

To fulfill his responsibilities, the Auditor General has established a professional office committed to the principles of objectivity, integrity and service to the public.

While this statement is purposely brief, amplification of its various aspects will help the reader better understand its message.

The phrase, *"serves the citizens of the Province"*, denotes the concept of public service and recognizes the breadth of the audience interested in the Auditor General's work, including Members of the Legislative Assembly, the government and its administration, the taxpayer, and others seeking information about the financial and administrative affairs of the government.

The statement continues, *"by providing independent"*. This reflects the fact that the Auditor General is an officer of the legislature. His independence from the government of the day and the public service is essential to the effective and unbiased work of the Office.

The phrase, *"opinions and evaluations on the financial and administrative management of the government"*, describes the major responsibility of the Office of the Auditor General. The *Auditor General Act* requires the Auditor General to examine the accounts and records of the government, and to express his opinion on the government's annual financial statements. In this respect the Auditor General's role is like that of accounting firms who audit the books of private sector companies. Following the collection and spending of public funds, the Auditor General examines the government's financial transactions and reports his findings to the Legislative Assembly. Like private sector auditors, he expresses his opinion on the financial information presented to him by the government—the traditional "attest" audit function.

The Act also calls on the Auditor General to comment in an annual report to the Legislative Assembly on any matter arising from his work that he considers to be of interest to the Assembly. This may deal with such matters as the improper use of public funds, failure to comply with legislative and related authorities, expenditures not authorized by the legislature, and other irregularities. It may also deal with his evaluations as to whether tax dollars have been economically and efficiently spent for the purposes intended.

The Statement continues, *"and its related entities in the public sector."* This refers to the Auditor General's role with respect to provincial Crown corporations and other public bodies. For those public bodies of which he is the appointed auditor, the Auditor General's responsibilities roughly parallel those undertaken in the audit of the government's accounts. For those public bodies audited by others, the Auditor General has an overseeing role which responds to the various needs of the Legislative Assembly.

The next sentence states, *"As well, he promotes improvement in public sector accountability."* It refers to the Auditor General's overall concern with disclosure and accountability throughout the public sector. In this regard, whether through his Annual Report, his dealings with the Public Accounts Committee of the Legislative Assembly, or his direct contact with public officials and administrators, the Auditor General actively furthers the concept of accountability.

The final phrase of the Mission Statement reads, *"a professional office committed to the principles of objectivity, integrity and service to the public."* The concept of professionalism emphasized here implies adherence to a set of standards that are professionally recognized. Since its inception, the Office of the Auditor General has operated as a practicing accounting office as defined by the Institute of Chartered Accountants of British Columbia, and has met all the requirements of that Institute associated with this status. Staff members of the Office are required to have either a professional accounting designation or special qualifications in other disciplines, or to be pursuing studies toward a professional designation.

Appendix C

Office of the Auditor General: Audit Objectives and Methodology

Audit work performed by the Office of the Auditor General falls into three broad categories:

- Financial statement auditing
- Value-for-money auditing
- Compliance, control, and accountability auditing

Each of these categories has certain objectives that are expected to be achieved, and each employs a particular methodology to reach those objectives. The following is a brief outline of the objectives and methodology of each audit category.

Financial Statement Auditing

Purposes of Financial Statement Audits

An independent audit of financial statements has several purposes. The main one is to add credibility to the statements, thus enhancing their value to the ultimate users. Evidence of this is provided in the form of an Auditor's Report which accompanies the financial statements, and in which the auditor expresses his opinion as to whether the statements are presented fairly in accordance with an appropriate, disclosed basis of accounting.

Another benefit of such an annual audit is that its very existence provides a constant stimulus to an organization to ensure sound financial management. In addition, the auditor is frequently able to provide helpful assistance and advice to an organization as a direct result of findings developed during the audit.

Reporting the Results of Audits

As noted above, a financial statement audit results in the issuance of a report on those statements. These reports are addressed to whomever appointed or engaged the auditor to do the work, such as the organization's owner, the shareholders, or some appropriate representative of those with a stake in the organization. In the case of the three sets of government financial statements examined by this Office, the Auditor General addresses his reports to the Legislative Assembly. The reports issued on the statements of Crown corporations and other government organizations are addressed to various parties, according to applicable appointment or engagement arrangements.

The Auditor's Report constitutes the auditor's professional opinion on the financial statements, and usually consists of two basic paragraphs: a scope paragraph and an opinion paragraph.

The scope paragraph identifies the financial statements being reported on, and refers to the scope and nature of the auditor's examination.

The opinion paragraph contains the auditor's conclusion, based on the audit conducted in accordance with generally accepted auditing standards.

If the auditor is unable to provide an opinion without reservation on the financial statements, he must then incorporate another paragraph in the report. In that paragraph, which would appear between the scope and the opinion paragraphs, the auditor advises the reader as to the reasons for the reservation, and the effects or possible effects on the financial statements of the matter giving rise to the reservation.

Finally, should the auditor wish to present additional information or explanations concerning the financial statements—information that does not constitute a reservation of his audit opinion—he may add a further, explanatory paragraph to his report.

Auditing Standards

When undertaking examination procedures for the purpose of expressing an opinion on financial statements, auditors are expected to comply with established professional standards, referred to as generally accepted auditing standards. The principal source of these standards in Canada is the Canadian Institute of Chartered Accountants (CICA).

Generally accepted auditing standards consist of three main areas. There are general requirements that the auditor be properly qualified to conduct and report on an audit, and that he carry out his duties with an objective state of mind. Further standards outline the key technical elements to be observed in the conduct of an audit. Finally, reporting standards set out the essential framework of the auditor's report on the financial statements.

In addition to these broad standards, the CICA makes other, more detailed, recommendations related to matters of auditing practice. As well, the CICA, through its Public Sector Accounting and Auditing Committee, makes recommendations which relate specifically to the audit of entities in the public sector.

Application of the Standards

The Office of the Auditor General complies with all prescribed auditing standards in the conduct of its work.

We carry out extensive examinations of the accounts and records maintained by the ministries and central agencies of government, and by the Crown corporations and other public bodies of which the Auditor General is the auditor. These examinations are conducted in accordance with the auditing standards referred to above.

At the same time, however, it is important to realize that the Auditor General's opinion on a set of financial statements does not guarantee the absolute accuracy of those statements. In the audit of any large organization it is neither feasible nor economically desirable to examine every transaction. Instead, a sampling of transactions is carried out by the auditor in a manner designed

to provide reasonable assurance that any errors contained in the financial statements are not, in total, significant enough to mislead the reader as to the organization's financial position or results of operations.

When determining the nature and extent of work required to provide such assurance, we consider two main factors: *materiality*, which is expressed in dollar terms, and *overall audit assurance*, expressed in percentage terms.

- *Materiality* relates to the aggregate dollar amount which, if in error, would affect the substance of the information reported in the financial statements, to the extent that the reader's judgment, based on the information contained in the statements, would be affected.

- *Overall audit assurance* represents, in percentage terms, how certain the auditor wants to be that his audit will discover errors in the financial statements which, in total, exceed materiality.

In planning our audits of financial statements, we exercise professional judgment in determining the application of these two key factors.

Value-for-Money Auditing

Purpose of the Audits

A value-for-money audit is defined as:

> ... an examination that provides an objective and constructive assessment of the extent to which:
>
> - financial, human and physical resources are managed with due regard to economy, efficiency and effectiveness; and
>
> - accountability relationships are reasonably served.

These audits are based on two principles. The first is that public business should be conducted in a way that makes the best possible use of public funds. The second is that people who conduct public business should be held accountable for the prudent and effective management of the resources entrusted to them.

Value-for-money audits are not designed to question government policies. Nor, in British Columbia, do they assess program effectiveness. The *Auditor General Act* directs the Auditor General to assess whether the programs implemented to achieve government policies are being administered economically and efficiently. Our value-for-money audits also evaluate whether members of the Legislative Assembly and the public are provided with appropriate accountability information about government programs.

Audit Subjects

We select for audit either programs or functions administered by a specific ministry or public body, or cross-government programs or functions that apply to many government entities. There are a large number of such programs and functions throughout government.

We examine the larger and more significant ones on a cyclical basis.

We believe that value-for-money audits should be undertaken on a five- to six-year cycle so that members of the Legislative Assembly and the public receive assessments of all significant government operations over a reasonable time period.

Audit Results

In the reports that result from these audits, we provide fair, independent assessments of the quality of government administration. We conduct our examinations in a way that enables us to provide positive assessments where they are warranted. Where we cannot provide such assessments, we report the reasons for our reservations. Throughout our audits, we identify opportunities to improve government administration.

Our Audit Process

We carry out these audits in accordance with the procedures detailed in our value-for-money auditing manual. This manual conforms to the value-for-money auditing standards of the CICA.

One of these value-for-money auditing standards requires that the "person or persons carrying out the examination possess the knowledge and competence necessary to fulfill the requirements of the particular audit." In order to meet this standard, we employ professionals with training and experience in a variety of fields, including economics, law, accounting, education, engineering, architecture, management, and auditing. These professionals are engaged full-time in the conduct of value-for-money audits. In addition, we often supplement the knowledge and competence of the audit team formed to carry out a particular audit by engaging a consultant who has expertise in the subject of that audit.

As value-for-money audits, like all audits, involve a comparison of actual performance against a standard of performance, the CICA prescribes standards as to the setting of appropriate performance standards or audit criteria, and the nature and extent of evidence that should be obtained to support the content of the auditor's report. In conducting our audits, we do not demand theoretical perfection from public sector managers. Rather, we seek to determine whether they are meeting the reasonable expectations of legislators and the public.

The CICA's auditing standards address the reporting of audit results as well. We usually make two reports: one to the Legislative Assembly in the form of our Annual Report; and another, more detailed, report to management of the entity audited.

When undertaking value-for-money audits, auditors can look either at results, to determine whether value-for-money is actually achieved, or at managements' processes, to determine whether those processes should ensure that value is received for money spent.

Neither approach alone can answer all the legitimate questions of legislators and the public, particularly

if problems are found during the audit. If the auditor assesses results and finds value for money has not been achieved, the natural questions are "Why did this happen?" and "How can we prevent it from happening in future?" These are questions that can only be answered by looking at the process. On the other hand, if the auditor looks at the process and finds weaknesses, the question that arises is "Do these weaknesses result in less than best value being achieved?" This can only be answered by looking at results.

We try, therefore, to combine both approaches wherever we can. However, as acceptable results information and criteria are often not available, our value-for-money audit work frequently concentrates on managements' processes for achieving value for money.

Compliance, Control, and Accountability Auditing

In addition to those already described, a third broad category of audits is performed by the Office. We refer to it as compliance, control, and accountability auditing. As its title indicates, this category consists of three segments. The segments have a number of common, as well as a some unique, features.

Purposes of the Audits

The *Auditor General Act* calls on the Auditor General to comment in his annual report to the Legislative Assembly on any matter arising from his work that he considers to be of interest to the Assembly. This may deal with such matters as the improper use of public funds, failure to comply with legislative and related authorities, expenditures not authorized by the legislature, inadequate systems of internal control, and deficient accountability reporting.

While our audits of financial statements and our value-for-money audits may give rise to reporting on such matters, we also undertake audits specifically designed to examine these aspects of government administration.

Compliance-with-Authorities Auditing

In this context, "authorities" refers to legislation, regulations, orders-in-council, directives, by-laws, policies, guidelines, rules and other instruments through which powers are established and delegated.

Governments and other organizations in the public sector carry out their operations under the authority provided by incorporating or enabling legislation. Legislation may set out the directions, conditions and limitations with which these organizations must comply, and may also specify the administration and transactions of these organizations. For example, government spending, revenue-raising, borrowing and investing activities are carried out under legislative authority. As well, legislation designates administrative responsibilities and powers, and provides direction in regard to the performance of administrative functions. It may govern the appointment of boards and

commissions, or prescribe procedures to be followed in the acquisition of goods and services.

Legislation may delegate broad financial and administrative powers to governments, ministers and officials, and they in turn may establish authorities that must be complied with by the organizations concerned. Such authorities are subordinate to the enabling legislation and must comply with the directions, conditions and limitations set out in that legislation.

This structure of authorities constitutes a basis for legislative control over the source, allocation and use of public resources. It thus has a pervasive effect on the activities of governments and other publicly accountable organizations.

Our auditing work to assess compliance with authorities is usually carried out in conjunction with our financial statement attest audits, our value-for-money audits, our internal control reviews and our special studies. However, audits intended to specifically assess the extent of compliance with certain legislative and related authorities are now being conducted by the Office, on a cyclical basis.

Because readers of an audit report on compliance are entitled to an adequate level of assurance, we apply the same professional standards to our examination as those established by the CICA with respect to opinions on financial statements.

In an examination designed to report on compliance with authorities, we seek reasonable assurance that the authorities specified in the audit report have been complied with in all significant respects. Absolute assurance in auditing is not attainable because of such factors as the need for judgment, the use of testing, and the inherent limitations of internal controls.

In our reporting on compliance, the words "in all significant respects" are used as there may be minor instances of non-compliance that either may not be detected by the audit, or may not be worthy of inclusion in the report.

We must exercise professional judgment when assessing the significance of non-compliance. For example, the needs of the users of the report, the nature of the relevant authorities and the extent of the non-compliance should be considered. As well, the significance of non-compliance cannot always be measured in monetary terms.

Auditors of an organization require knowledge of, and familiarity with, the authorities that apply to the organization being audited and to the transactions for which it is responsible. Because the wording of these authorities may be subject to differing interpretations, auditors may wish to obtain professional advice with respect to legal issues arising in the course of such audits.

Internal Control Reviews

Internal controls are the methods used by an organization to regulate and guide its activities. They include the plan of organization followed, the records maintained, and the procedures employed to ensure

that business is conducted properly and efficiently. Reliable internal control systems in government are essential to see that:

- expenditures are made only as authorized;
- all revenue to which the government is entitled is assessed and collected;
- financial transactions are accurately recorded and reported;
- assets of the Crown are safeguarded; and
- relevant legislative and other authorities are complied with.

The ultimate responsibility for good internal controls rests with the government. These controls should be recognized as an integral part of each system used to regulate and guide operations. Good internal controls are not only essential to achieving the proper conduct of government business with full accountability for the resources made available, but they also facilitate the achievement of objectives by serving as checks and balances against undesired actions. By preventing negative consequence from occurring, internal controls help the government to run its operations cost-effectively.

The extent of controls in any system should be determined by the risk of loss, error, or misuse that is judged to be present in the system. The greater the risk, the greater the degree of required control. However, the cost of control should not exceed the benefits likely to be derived. The balancing of these factors—judgment as to risk involved and the need for controls to be cost effective—means that in most situations it is not practical for internal controls to provide absolute assurance that all risks are addressed and that all objectives will be achieved.

For each review undertaken, we acquire a thorough knowledge of the system, including identification of the functions in the system which enable management to achieve its program objectives. The complexity of the control environment is assessed and specific legislative authorities noted. The major internal control risks are then identified, including those relating to any potential contravention of governing legislation, and an audit program developed to see how well the system addresses the risks. Where major weaknesses are identified, further testing is performed. In determining the amount of testing to be undertaken for a weakness investigation, we take into account the financial impact of a material error occurring in the system being reviewed.

Accountability Studies

As a final segment of this audit category, we undertake, from time to time, examinations which are best described as accountability studies.

In our Mission Statement (see Appendix B), we state that "(the Auditor General) promotes improvement in public sector accountability." Our commentary goes on to say that this sentence "refers to the Auditor General's

overall concern with disclosure and accountability throughout the public sector. In this regard, whether through his Annual Report, his dealings with the Public Accounts Committee of the Legislative Assembly, or his direct contact with public officials and administrators, the Auditor General actively furthers the concept of accountability."

The concept of accountability pervades all aspects of government administration, and accordingly forms the basis for some of the commentary in our Annual Report. Nevertheless, we also endeavor to identify certain accountability issues which might be of interest to members of the Legislative Assembly and the general public, and which might not otherwise be subject to review in the normal course of events. As time and resources permit, these issues are studied, and our analysis of them published in our Annual Report.

Appendix D

Value-for-Money Audits Completed to Date

1991 Annual Report

Ministry of Forests:
- Monitoring of Forest Roads
- Monitoring of Timber Harvesting
- Monitoring of Major Licensees' Silviculture Activities

Ministry of Transportation and Highways:
- Highway Planning
- Protecting Roads and Bridges
- Monitoring of Maintenance Contractors
- Minor Capital Construction and Rehabilitation Projects

1990 Annual Report

Ministry of Transportation and Highways:
- Road and Bridge Maintenance
- Major Capital Projects
- Development Approvals
- Gravel Management
- Buying Signs
- Services, Facilities and Attractions Signs
- Annual Report

Privatization:
- Monitoring Environmental Laboratory Services
- British Columbia Enterprise Corporation Westwood Plateau Property

Acquisition and Disposition of Land

1989 Annual Report

Privatization:
- The Process
- Early Initiatives
- Highways
- British Columbia Enterprise Corporation Loans

Ministry of Health:
- Hospitals
- Medical Services Plan
- Continuing Care
- Public Health

1988 Annual Report

Ministry of Education:
- Funding
- Special Education
- Facilities
- Curriculum

Ministry of Energy, Mines and Petroleum Resources:
- Organization Structure
- Natural Gas Royalty Revenue
- Petroleum Resources Division
- Mineral Resources Division, Engineering and Inspection Branch

1987 Annual Report

Government Purchasing

Ministry of Attorney General:
- Corrections Branch
- Legal Services Branch
- Management of Buildings and Office Accommodation
- Management of the Financial Function

1986 Annual Report

Ministry of Lands, Parks and Housing:
- Crown Land Administration
- Crown Land Special Account Computerization
- Social Housing
- Parks and Outdoor Recreation
- Financial Management and Control
- Passenger Vehicle Travel

1985 Annual Report

Ministry of Agriculture and Food:
- Strategic Direction and Accountability
- Financial Assistance Extension
- Financial Management and Control

Ministry Annual Reports

1982 Annual Report

Review of Internal Audit in the Government of British Columbia

1981 Annual Report

Ministry of Environment:
- Waste Management Program
- Financial Management and Control

Ministry of Forests:
- Financial Management and Control

Ministry of Health:
- Financial Management and Control

1980 Annual Report

Ministry of Human Resources:
- Income Assistance Program
- Financial Management and Control

Ministry of Education:
- Financial Management and Control

Ministry of Finance:
- Financial Management and Control

Ministry of Lands, Parks and Housing:
- Financial Management and Control

Appendix E

Compliance, Control, Accountability, and Other Audits Completed to Date

1991 Annual Report

Compliance with the Financial Information Act, Regulation, and Directive

Compliance with Part IV of the Financial Administration Act and its Related Regulations

Expenditure Review: Board of Internal Economy

External Settlement/Safekeeping Services for Long-Term Bond Portfolios: Ministry of Finance and Corporate Relations

Child Day Care Subsidy Program: Ministry of Social Services and Housing

The Industrial Incentive Fund: An Audit of the Loans Process

Performance and Security Bonding

1990 Annual Report

Ministry Accounts Receivable Management

Pharmacare Processing of Payment Claims from Pharmacies: Ministry of Health

Wildlife Act—Licence Fee Revenue: Ministry of Environment

Long Term Disability Plan Benefit Payments: Superannuation Commission

Home Mortgage Accounting System: Ministry of Finance and Corporate Relations

Student Financial Assistance: Ministry of Advanced Education, Training and Technology

Accountability of Crown Corporations to the Legislative Assembly

The Lottery Fund: An Audit of the Granting Process

Public Gaming: Licensing and Control

Reporting the Results of Privatization Transactions

Fraud and Other Illegal Acts: Awareness, Reporting and Investigation

1989 Annual Report

Property Purchase Tax System: Ministry of Finance and Corporate Relations

Long-Term Debt Accounting System: Ministry of Finance and Corporate Relations

Central Textbook Inventory System: Ministry of Education

Data Collection Phase of the Stumpage and Royalty Revenue System: Ministry of Forests

Provincial Police Services Contract Payment System: Ministry of Solicitor General

Control of the Public Purse by the Legislative Assembly

Review of Recent Initiatives: Ministry of Transportation and Highways

Management of Government Employee Leave Entitlements

1988 Annual Report

Provincial Treasury Investment System: Ministry of Finance and Corporate Relations

Sewerage Assistance and Water Facilities Grants Payment System: Ministry of Municipal Affairs

Shelter Aid for Elderly Renters Grant Payment System: Ministry of Social Services and Housing

Small Business Enterprise Program Revenue System: Ministry of Forests and Lands

Vital Statistics Division Revenue System: Ministry of Health

1987 Annual Report

Review of Local Minor Purchase Orders and Emergency Purchase Orders

1986 Annual Report

Professional Service Contract Review

1982 Annual Report

Expenditure Review (Travel Expenses)

Appendix F

Special and Other Reports Issued to Date

	Date Report Issued
Report Under Section 12 of the *Auditor General Act*— Ministry of Attorney General: A Review of the Ministry's Relationship with Syscom Consulting Inc.	November 23, 1990
Special Report to the Legislative Assembly— The Lottery Fund: An Audit of the Granting Process	February 27, 1990
Report under Section 12 of the *Auditor General Act*— An Examination of the Severance Settlement with Mr. David Poole	July 7, 1989
Special Report to the Legislative Assembly on the Allocation of Highway Construction Costs in the Fiscal Year Ended 31 March 1986	March 7, 1988
Third Special Report to the Legislative Assembly on the Expenditures of the Ministry of Tourism	April 11, 1984
Second Special Report to the Legislative Assembly on the Expenditures of the Ministry of Tourism	July 18, 1983
Special Report to the Legislative Assembly on the Expenditures of the Ministry of Tourism	May 1, 1983
Special Report on Expenditures of the Minister of Consumer and Corporate Affairs from 6 January 1981 to 31 March 1982	July 23, 1982

Appendix G

Public Bodies Audited by the Auditor General

Included in the Consolidated Financial Statements

British Columbia Assessment Authority

British Columbia Educational Institutions Capital Financing Authority

British Columbia Enterprise Corporation

British Columbia Health Care Research Foundation

British Columbia Liquor Distribution Branch

British Columbia Regional Hospital Districts Financing Authority

British Columbia School Districts Capital Financing Authority

Creston Valley Wildlife Management Authority Trust Fund

Duke Point Development Limited

Health Facilities Association of British Columbia

Medical Services Commission of British Columbia

Provincial Capital Commission

Provincial Rental Housing Corporation

W.L.C. Developments Ltd.

Included in Trust Funds

British Columbia Hydro and Power Authority Pension Fund

BC Rail Ltd. Pension Fund

British Columbia Public Service Long Term Disability Fund

College Pension Fund

Members of the Legislative Assembly Superannuation Account

Municipal Superannuation Fund

Province of British Columbia Pooled Investment Portfolio, Fund ST1

Province of British Columbia Pooled Investment Portfolio, Fund ST2

Province of British Columbia Pooled Investment Portfolio, Canadian Equity Index Fund

Public Service Superannuation Fund

Teachers' Pensions Fund

Workers' Compensation Board

Other

British Columbia Institute of Technology

British Columbia Housing and Employment Development Financing Authority

Legal Services Society

Simon Fraser University

University of British Columbia

University of Victoria

Workers' Compensation Board Superannuation Fund

Appendix H

Public Bodies Audited by Private Sector Auditors, and Whose Financial Statements are Included in Volume II of the Public Accounts

Included in the Consolidated Financial Statements

British Columbia Buildings Corporation

British Columbia Ferry Corporation

British Columbia Heritage Trust

British Columbia Housing Management Commission

British Columbia Hydro and Power Authority

British Columbia Lottery Corporation

B.C. Pavilion Corporation

British Columbia Petroleum Corporation

British Columbia Railway Company

British Columbia Steamship Company (1975) Ltd.

British Columbia Systems Corporation

British Columbia Trade Development Corporation

British Columbia Transit

British Columbia Year of Music Society

Downtown Revitalization Program Society of British Columbia

Housing Corporation of British Columbia

Insurance Corporation of British Columbia

Pacific Coach Lines Ltd.

Pacific National Exhibition

Science Council of British Columbia

Included in Trust Funds

Credit Union Deposit Insurance Corporation of British Columbia

Appendix I

Excerpts from the Public Accounts

The material which forms Appendix I is copied from the Public Accounts of British Columbia for the fiscal year ended March 31, 1990. It consists of:

- Introduction to the Public Accounts, containing a statement of responsibility, and a statement of the government's significant accounting policies.
- The Consolidated Financial Statements, which are the government's summary financial statements.

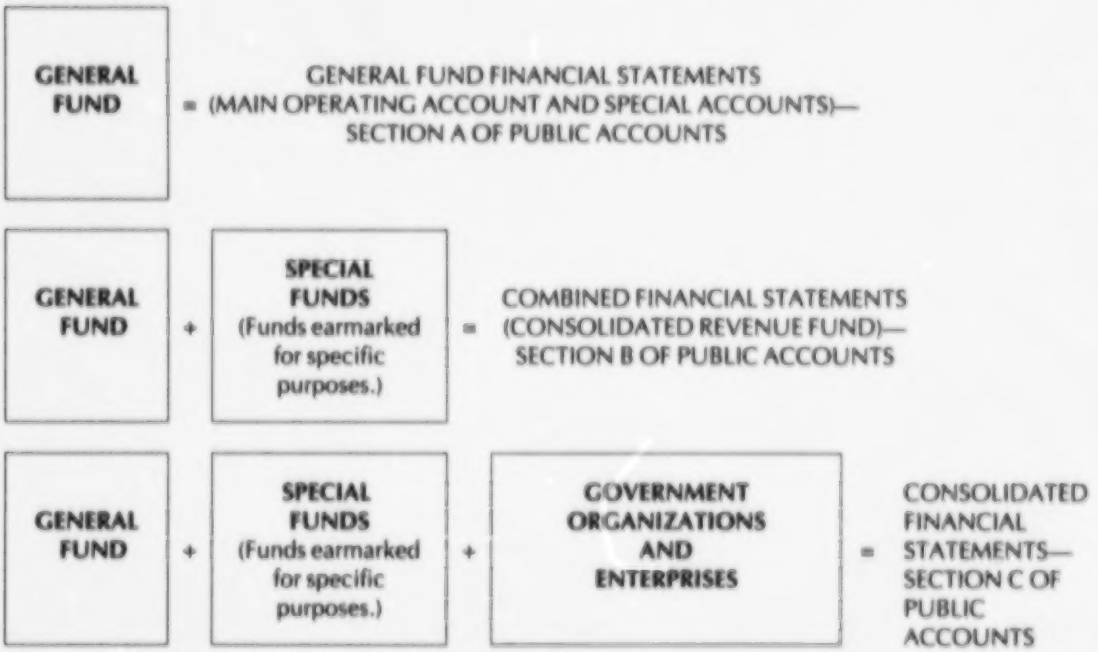
GOVERNMENT OF THE PROVINCE OF BRITISH COLUMBIA
INTRODUCTION TO THE PUBLIC ACCOUNTS

The Public Accounts are the documents that contain the audited financial statements of the government and other financial information presented to the Legislative Assembly to show compliance with the various statutory authorities. The government's financial statements are prepared in accordance with the accounting policies described in this Introduction and on a basis consistent with that of the preceding year, except where a change or variation is explicitly described in the Significant Accounting Policies section below.

Statement of Responsibility

Responsibility for the integrity and objectivity of the financial statements rests with the government. The financial statements are prepared by the Comptroller General under the direction of the Treasury Board, pursuant to section 8 (2) of the *Financial Administration Act*, in accordance with the government's stated accounting policies and principles. Each financial statement covers the fiscal year of the government, which is from April 1 to March 31 of the following year.

The government carries on its activities through a variety of appropriations, special funds, corporations and agencies. The financial statements are, therefore, prepared to incorporate various levels of activity under its authority:


GENERAL FUND
= GENERAL FUND FINANCIAL STATEMENTS (MAIN OPERATING ACCOUNT AND SPECIAL ACCOUNTS)— SECTION A OF PUBLIC ACCOUNTS
GENERAL FUND
+
SPECIAL FUNDS (Funds earmarked for specific purposes.)
= COMBINED FINANCIAL STATEMENTS (CONSOLIDATED REVENUE FUND)— SECTION B OF PUBLIC ACCOUNTS
GENERAL FUND
+
SPECIAL FUNDS (Funds earmarked for specific purposes.)
+
GOVERNMENT ORGANIZATIONS AND ENTERPRISES
= CONSOLIDATED FINANCIAL STATEMENTS— SECTION C OF PUBLIC ACCOUNTS

The Public Accounts, which are in two volumes, contain the following financial statements:

- *Section A General Fund Financial Statements* — these statements contain the operating activities of the government including special accounts.
- *Section B Combined Financial Statements* — these statements include the accounts of the Consolidated Revenue Fund, combining the activities of the General Fund (main operating account and special accounts), with funds earmarked for specific purposes, Special Funds.

- *Section C Consolidated Financial Statements* — these statements have been prepared to disclose the economic impact of the government's activities. They aggregate the Consolidated Revenue Fund and Government Organizations and Enterprises.
- *Section D Supplementary Schedules to the Financial Statements* — this section contains schedules which support the information presented in the province's General Fund financial statements. Section D also contains Detailed Ministry Expenditures — this section contains details of expenditures by ministerial appropriations, together with an analysis of statutory appropriations and Special Accounts and Funds transactions.
- *Section E Detailed Schedules of Payments* — this section contains detailed schedules of salaries, wages, travel expenses, grants and other payments.
- *Section F Financial Statements of Government Organizations and Enterprises*— this section contains the latest audited financial statements of Government Organizations and Enterprises. A summary of financial information for those other entities subject to the *Financial Information Act* is also incorporated in Section H.
- *Section G Financial Statements for various Trust Funds* — this section contains the latest audited financial statements of the pension, superannuation and long-term disability funds administered by the government. A summary of financial information for Trust Funds is included in this section.
- *Section H Summaries of Financial Statements of Corporations and Agencies to which the Financial Information Act applies* — this section contains summaries of the financial statements of Corporations, Associations, Boards, Commissions, Societies and Public Bodies required to report under the *Financial Information Act* (S.B.C. 1985, chapter 8, section 2) and not included in Section F.

The financial statements included in Volume I comprise the following.

- *Balance Sheet* — a statement of financial position, showing recorded assets and liabilities, with the residual difference being net equity. In addition to the recorded assets, the province owns a significant number of other assets: fixed assets, including highways, bridges, ferries and Crown land, which includes parks, forests and all other publicly held land in the province.
- *Statement of Revenue and Expenditure* — a statement summarizing the items of revenue and expenditure for the fiscal year. The net revenue or expenditure for a year represents the change in net equity for the same period.
- *Statement of Changes in Cash and Temporary Investments* — a statement showing how the operating transactions (being those expenditures and other transactions which affect operating results) and financing transactions (being those transactions such as loans which affect the financial position but not the operating results) have affected the cash and temporary investments position of the government.
- *Notes and Supplementary Statements to Financial Statements* — these provide additional information on the amounts included in the financial statements and they form an integral part of the financial statements.

Significant Accounting Policies

Basis of Accounting

The accrual basis of accounting is used, which is specifically expressed as follows:

Revenue

All revenues are recorded on an accrual basis except where the accruals cannot be determined with a reasonable degree of certainty or where their estimation is impracticable. The exceptions, which normally relate to certain payments to the province under the *Federal-Provincial Fiscal Arrangements and Federal Post-Secondary Education and Health Contributions Act, 1977*, are recorded on a cash basis. Revenues from Crown corporations are recognized when cash transfers are received or when dividends are declared.

Expenditure

All expenditures, including the cost of fixed assets, are recorded for goods and services received during the year. Grants (which include forgivable loans) are recorded as expenditure when disbursement of the funds has been authorized. Contributions are recorded as expenditure at the earlier of:

(i) the date payment has been authorized; or,

(ii) the date on which performance conditions are achieved by the recipient under provisions of a statute, contract or agreement.

Recoveries of expenditure may be recorded as a credit to the appropriate expenditure account when:

(i) they can be specifically identified with the expenditure transactions and payment has actually been made from an appropriation;

(ii) provision for them has been approved through the Estimates; and

(iii) the expenditure to which they relate was incurred in the same fiscal year.

Assets

All assets are recorded to the extent that they represent cash and claims upon outside parties or items held for resale to outside parties as a result of events and transactions prior to the year-end. Rental payments for leases which transfer the benefits and risks incident to the ownership of certain assets, not including special purpose buildings, are reported as expenditures at the dates of inception of the leases.

Liabilities

All liabilities are recorded to the extent that they represent claims payable to outside parties as a result of events and transactions prior to the year-end, including probable losses on loan guarantees issued by the government.

Foreign Currency Translation

Monetary assets and liabilities denominated in foreign currencies are translated to Canadian dollars at the exchange rate prevailing at the year-end, and foreign currency transactions are translated at the exchange rate prevailing at the date of the transaction unless hedged by forward contracts which specify the rate of exchange. Adjustments to revenue or expenditure transactions arising as a result of foreign currency translation are credited or charged to operations at the time the adjustments arise. Unrealized foreign currency gains and losses on long-term, fixed-term monetary assets and liabilities are reported as deferred charges and amortized over the remaining terms of the related items on a straight line basis.

Non-monetary assets and liabilities are translated at historical rates of exchange.

Valuation Allowances

Valuation allowances, such as provisions for doubtful accounts and provisions for reduction in value of investments, are reported as non-operating transactions on the statement of revenue and expenditure. Personal and corporate income tax are recorded net of tax credits and adjustments which are based upon revised assessments of actual tax revenue of previous taxation years. Tax credits and adjustments are not considered valuation allowances.

SPECIFIC POLICIES

Cash and Temporary Investments

Cash balances are shown after deducting outstanding cheques issued prior to the year-end. Cheques issued subsequent to the year-end relating to the previous year are included in accounts payable.

Temporary investments include short-term investments recorded at the lower of cost or market value.

Temporary investments consist mainly of units in the Province of British Columbia Pooled Investment Portfolios. Units are carried at the lower of cost of acquisition adjusted by income attributed to the units, or market value. Income attributed to the units represents the unitholders' share of interest earned by the portfolio and is realizable by unitholders upon the sale of units.

Accounts Receivable

All amounts receivable (including any trade receivables from Crown corporations and agencies) at the year-end for work performed, goods supplied or services rendered are recorded as revenue or recoveries of the fiscal year. Provision is made where collectibility is considered doubtful.

Inventories

Inventories comprise items held for resale and are recorded at the lower of cost or net realizable value. Inventories of supplies are charged to the respective programs when the cost is incurred.

Property under development, which will eventually be sold to outside parties, is recorded at the lower of cost or net realizable value.

Investments In and Amounts Due From Crown Corporations and Agencies

Investments in and amounts due from Crown corporations and agencies represent long-term investments and amounts due, other than trade receivables, and are recorded at cost unless significant prolonged impairment in value has occurred, in which case they are written down to recognize this loss in value. If, in periods subsequent to recognizing this impairment, the value of the investment is restored, the investment is written up to the lesser of restored value or original cost.

Loans, Advances and Other Investments

Loans, advances and other investments are recorded at cost less adjustment for any prolonged impairment in value.

Mortgages Receivable

Mortgages receivable are secured by real estate and are repayable over periods ranging up to thirty years. Provision is made where collectibility is considered doubtful.

Fiscal Agency Loan Program

Fiscal Agency Loan Program consists of loans made to government bodies, and cash and temporary investments set aside for the specific purpose of loaning to government bodies. Loans are recorded at maturity value less unamortized discounts and sinking fund balances. Discounts are amortized on an effective yield basis.

Other Assets

Other assets include prepaid program costs. Prepaid program costs represent expenditures made during the fiscal year for work to be performed, goods to be supplied, services to be rendered or contractual obligations to be fulfilled by outside parties in a subsequent fiscal year. These costs also include inventories of operating materials held in the Purchasing Commission and Queen's Printer warehouses pending distributions in a subsequent fiscal year.

Also included in other assets are certain deferred charges.

Fixed Assets

Disbursements for fixed assets are recorded as expenditures in the year the assets are received. Consistent with the reporting of fixed assets as expenditures, highways, bridges, wharves, ferries and ferry landings, buildings, office equipment, furniture, automobiles and Crown land comprised of parks, forests and all other publicly held land in the province, not including property under development, are recorded at a nominal value of $1.

Accounts Payable and Accrued Liabilities

All amounts payable (including trade payables to Crown corporations and agencies) for work performed, goods supplied, services known to have been rendered or for charges incurred in accordance with the terms of a contract are recorded as part of the expenditure of the fiscal year.

Due to Crown Corporations, Agencies and Funds

Amounts due to Crown corporations, agencies and funds represent liabilities incurred, other than trade payables, which are payable in the following year.

Deferred Revenue

Deferred revenue represents amounts received or receivable prior to the year-end relating to revenue that will be earned in subsequent fiscal years.

Public Debt

Public debt represents direct debt obligations for the purposes of the Government of British Columbia and the Fiscal Agency Loan Program. These obligations are recorded at principal less unamortized discounts and sinking fund balances where applicable. Discounts are amortized on an effective yield basis.

Guaranteed Debt

Guaranteed debt represents that debt of municipalities and other local governments, private enterprises and individuals, and debt and minority interests of provincial Crown corporations, which has been explicitly guaranteed or indemnified by the government, under the authority of a statute, as to net principal or redemption provisions. Provision is made where probable losses can be reasonably estimated.

A provision shall be established representing the probable losses on loan guarantees issued by the government. The amount of the provision shall be determined by the loss experience of the guarantee program and shall be sufficient to meet the expected payout of the guarantee to the lender. The provision shall be recorded as an expense in the year the guarantee is issued and shall be adjusted as necessary to ensure it equals the expected payout of the guarantee.

Commitments

Commitments represent future obligations of the government for capital contracts and extraordinary program commitments, to the extent of contracts and agreements in place at the year-end.

1990 CHANGES IN ACCOUNTING POLICY

- *Fiscal Agency Loan Program* — Beginning in 1989/90, Fiscal Agency Loan balances include any cash on hand borrowed for future relending under this program. This does not change the operating statement results, and the balance sheet change is $55 million (1989–$0) now included in the Fiscal Agency Loan Program, which, under the previous policy, would have been included in the Cash and Temporary Investments amount. This new presentation includes all assets related to the Fiscal Agency Loan Program in a single category on the Balance Sheet.
- *Valuation Allowances* — Beginning in 1989/90, valuation allowances are reported as non-operating transactions on the statement of revenue and expenditure. In prior years such amounts were charged to revenue, a vote or statutory appropriation, depending upon the type of asset affected. As a result, the 1988/89 gross revenue has been increased by $16 million and gross expenditure reduced by $65 million to produce a total non-operating transaction of $81 million.
- *Consolidated Reporting Entity* — For the government's consolidated financial statements, in Section C of the Public Accounts, the Reporting Entity and Principles of Consolidation have been changed to conform more closely with the criteria recommended in 1988 by the Public Sector Accounting and Auditing Committee of the Canadian Institute of Chartered Accountants. These changes involved adding seven organizations (British Columbia Assessment Authority, British Columbia Year of Music Society, Downtown Revitalization Program Society of British Columbia, Duke Point Developments Limited, Insurance Corporation of British Columbia, Pacific National Exhibition and W.L.C. Developments Limited), excluding two (Discovery Foundation and Legal Services Society) and reclassifying seven others from the consolidated category to the modified equity category. The net effect of these changes to the consolidated net deficiency for the 1988/89 fiscal year was a decrease of $285 million.
- *Guaranteed Debt* — Beginning in 1989/90, a policy to recognize provisions for probable losses on loan guarantees has been established. As a result, an additional expense of $4.0 million was recognized for the 1989/90 fiscal year.

SECTION C

CONSOLIDATED FINANCIAL STATEMENTS AS AT MARCH 31, 1990

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Legislative Assembly
Province of British Columbia

AUDITOR GENERAL

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AUDITOR GENERAL'S REPORT

To the Legislative Assembly
of the Province of British Columbia
Parliament Buildings
Victoria, British Columbia

I have examined the consolidated balance sheet of the Government of the Province of British Columbia as at March 31, 1990, and the related statements of revenue and expenditure and changes in cash and temporary investments for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances. I have received all the information and explanations I have required.

I report in accordance with section 7 of the *Auditor General Act.* In my opinion, these consolidated financial statements present fairly the financial position of the Government as at March 31, 1990 and the results of its operations and the changes in its financial position for the year then ended in accordance with the stated accounting policies as set out in note 1 to these financial statements applied, after giving retroactive effect to the changes explained in the 1990 Changes in Accounting Policy section of the Introduction to the 1989/90 Public Accounts, on a basis consistent with that of the preceding year.

George L. Morfitt, F.C.A.
Auditor General

Victoria, British Columbia
August 31, 1990,
except as to note 20
which is as of September 18, 1990

CONSOLIDATED BALANCE SHEET
AS AT MARCH 31, 1990

	Note	In Millions 1990	1989
ASSETS		$	$
Cash and temporary investments	2	442	724
Accounts receivable	3	1,135	1,041
Inventories	4	55	69
Equity in government enterprises	5	2,280	2,098
Loans, advances and other investments	6	800	612
Mortgages receivable	7	138	420
Fiscal Agency Loan Program	8	6,287	5,418
Other assets	9	21	36
		11,158	**10,418**
LIABILITIES AND NET EQUITY (DEFICIENCY)			
Liabilities:			
Accounts payable and accrued liabilities	10	1,367	1,277
Due to Crown corporations, agencies and trust funds	11	54	60
Deferred revenue	12	280	254
Public debt, used for operating purposes	13	4,803	5,447
Public debt, used for Fiscal Agency Loan Program	14	6,257	5,387
		12,761	12,425
Net equity (deficiency)	15	(1,603)	(2,007)
		11,158	**10,418**
Fixed assets	Public Accounts Introduction page x		
Contingencies and commitments	18		

The accompanying notes and supplementary statements are an integral part of these financial statements.

Approved on behalf of the Ministry of Finance and Corporate Relations:

DOUGLAS H. HORSWILL
Deputy Minister of Finance and
Corporate Relations

ALAN J. BARNARD
Deputy Comptroller General
Acting for the Comptroller General

CONSOLIDATED STATEMENT OF REVENUE AND EXPENDITURE FOR THE FISCAL YEAR ENDED MARCH 31, 1990

	In Millions 1990	1989
	$	$
REVENUE		
Taxation	7,969	6,992
Natural resources	1,249	1,281
Other	2,223	2,173
Contributions from government enterprises	530	415
Contributions from the federal government	2,101	2,110
Recoveries	667	494
Total revenue	**14,739**	**13,465**
EXPENDITURE		
Health	4,479	3,981
Social services	1,465	1,378
Education	3,237	2,926
Protection of persons and property	549	493
Transportation	1,179	799
Natural resources and economic development	932	791
Other	533	480
General government	621	534
Debt servicing	1,415	1,250
Total operating expenditure (Note 17)	**14,410**	**12,632**
Net Operating Revenue for the Year	**329**	**833**
NON-OPERATING TRANSACTIONS		
Valuation allowances	(22)	(81)
Accounting adjustment for recognition of grants paid for social assistance payments		(31)
Accounting adjustment for reclassification of British Columbia Liquor Distribution Branch to modified equity basis (Note 21)		9
Increase in unremitted equity of government enterprises (Note 5)	97	200
Consolidated Net Revenue for the Year (Note 15)	**404**	**930**

The accompanying notes and supplementary statements are an integral part of these financial statements.

CONSOLIDATED STATEMENT OF CHANGES IN CASH AND TEMPORARY INVESTMENTS FOR THE FISCAL YEAR ENDED MARCH 31, 1990

	In Millions			
	1990		1989	
	$		$	
OPERATING TRANSACTIONS				
Net operating revenue for the year		329		833
Non-cash items included in net expenditure:				
Accounts receivable (increases)	(94)		(127)	
Accounts payable increases	90		54	
Equity in government enterprises decreases (increases)	(182)		184	
Due to Crown corporations increases (decreases)	(6)		23	
Accounting adjustments	(22)		(103)	
Unremitted equity of government enterprises increase	97		200	
		(117)		231
Cash items applicable to future operations		55		130
Cash derived from operations		267		1,194
INVESTMENT TRANSACTIONS				
Loans, advances and other investments (issues)	(188)		(448)	
Mortgages receivable repayments (issues)	282		(93)	
Cash derived from (used for) investments		94		(541)
Total financial increases		361		653
FINANCING TRANSACTIONS				
Increase in public debt issues	226		1,104	
Less: Used for Fiscal Agency Loan Program	(869)		(1,168)	
Cash (used for) financing		(643)		(64)
Increase (decrease) in cash and temporary investments		(282)		589
Balance — beginning of year		724		135
Balance — end of year		**442**		**724**

The accompanying notes and supplementary statements are an integral part of these financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS FOR THE FISCAL YEAR ENDED MARCH 31, 1990

1. Significant Accounting Policies

(a) Reporting Entity

These financial statements include the accounts of organizations which are accountable for the administration of their financial affairs and resources either to a minister of the government or directly to the Legislature, and are owned or controlled by the government.

A detailed schedule of organizations included in these consolidated financial statements may be found on C17.

Advanced education institutions are excluded from consolidation. These organizations are dissimilar to other government organizations in terms of their objectives, operations and financial reporting practices. Trusts administered by a government or government organization are excluded from the government reporting entity.

(b) Principles of Consolidation

The accounts of the organizations, except those designated as government enterprises, are consolidated after adjusting them to a basis consistent with the accounting policies described below. Inter-organization accounts and transactions are eliminated upon consolidation.

A government enterprise has the financial and operating authority to carry on a business, including contracting in its own name, and sells goods and services to individuals and non-government organizations as its principal activity and source of revenue.

Government enterprises are recorded on the modified equity basis. Under this basis, the government's investment is initially recorded at cost and adjusted annually to include the net earnings/losses and other net equity changes of the enterprise without adjusting them to conform with the accounting policies described below. Since the government ensures the ongoing activities of government enterprises, full account is taken of losses in these enterprises, even where the cumulative losses exceed the original investment.

Inter-organization accounts and transactions are not eliminated. However, profit elements included in such transactions, including certain increases in contributed surplus, are eliminated.

Adjustments are not made to account for changes in organizations whose fiscal year-ends are not March 31, unless the effect of adjustment would be significant to the consolidated operating results.

(c) Basis of Accounting and Specific Policies

The basis of accounting, specific policies and 1990 changes in accounting policy, are as stated in the Introduction to the Public Accounts, with the following amendments:

- Equity in Government Enterprises represents the government's investment (including long-term advances) in those government organizations at cost, adjusted for increases and decreases in the investees' net assets.
- The policies "Investment in and amounts due from Crown corporations and agencies" and "Revenues from Crown corporations" are not applicable.
- Public debt includes debt obligations of the consolidated Crown corporations, and commitments include future obligations of all the consolidated entities.
- For these financial statements the gross basis of accounting is followed. In particular, recoveries are reported as revenue.

2. Cash and Temporary Investments

	In Millions 1990	1989
	$	$
Cash (cheques issued in excess of funds on deposit)	(107)	(138)
Temporary investments		
Units in Province of British Columbia Pooled Investment Portfolios	549	862
	442	724

3. Accounts Receivable

	In Millions 1990	1989
	$	$
Taxes receivable	544	514
Local government bodies	4	3
Government of Canada	66	91
Trade accounts receivable	300	306
Accrued interest	187	177
Crown corporations and agencies	112	28
	1,213	1,119
Less provision for doubtful accounts	(78)	(78)
	1,135	1,041

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS FOR THE FISCAL YEAR ENDED MARCH 31, 1990 — Continued

4. Inventories

	In Millions 1990 $	1989 $
Property under development	53	68
Other	2	1
	55	69

5. Equity in Government Enterprises

(see C18 for details)

	In Millions 1990			1989
	Investments $	Unremitted Earnings $	Total $	Total $
British Columbia Assessment Authority		5	5	3
British Columbia Enterprise Corporation				24
British Columbia Ferry Corporation		193	193	161
British Columbia Housing Management Commission		5	5	4
British Columbia Hydro and Power Authority	109	681	790	677
British Columbia Liquor Distribution Branch	17		17	14
British Columbia Lottery Corporation	14		14	
B.C. Pavilion Corporation	158		158	155
British Columbia Petroleum Corporation	8	19	27	54
British Columbia Railway Company	268	552	820	833
British Columbia Steamship Company (1975) Ltd		4	4	(4)
British Columbia Transit		110	110	107
Duke Point Development Limited		4	4	
Housing Corporation of British Columbia		5	5	5
Insurance Corporation of British Columbia		55	55	10
Pacific National Exhibition		30	30	28
Provincial Capital Commission		3	3	3
Provincial Rental Housing Corporation	23		23	24
W.L.C. Developments Ltd		17	17	
	597	1,683	2,280	2,098

Change in Equity in Government Enterprises

	In Millions 1990			1989
	Investments $	Unremitted Earnings $	Total $	Total $
Balance — beginning of year	512	1,586	2,098	2,282
Increase (decrease) for the year	85	97	182	(184)
Balance — end of year	597	1,683	2,280	2,098

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS FOR THE FISCAL YEAR ENDED MARCH 31, 1990 — Continued

6. Loans, Advances and Other Investments

	In Millions 1990	1989
	$	$
Agricultural Land Development Act	14	15
Crop Insurance Stabilization Act	15	14
Development Corporation Act	120	145
Downtown Revitalization Act	13	25
Homeowner Assistance Act	5	11
Industrial Development Fund Act	22	27
Industrial Development Incentive Act	114	78
Low Interest Loan Agreement Revolving Fund Act	5	9
Ministry of Lands, Parks and Housing Act	5	4
Privatization Benefits Fund Act	422	318
Province of Saskatchewan	100	
Other	42	33
	877	679
Less provision for doubtful accounts	(77)	(67)
	800	612

7. Mortgages Receivable

	In Millions 1990	1989
	$	$
Crown Land — pursuant to the *Ministry of Lands, Parks and Housing Act*	20	31
False Creek land sale		
Note receivable	91	83
Public participation funding agreement	20	20
Provincial Home Acquisition — pursuant to the *Provincial Home Acquisition Act, Home Purchase Assistance Act,* and the *Home Conversion and Leasehold Loan Act*	22	303
Other	3	2
	156	439
Less provision for doubtful accounts	(18)	(19)
	138	420

8. Fiscal Agency Loan Program

	In Millions 1990	1989
	$	$
Cash and temporary investments held for relending	54	
British Columbia Assessment Authority	4	5
British Columbia Hydro and Power Authority	2,981	2,348
British Columbia Railway Company	49	74
British Columbia Transit	920	874
Capital Project Certificate of Approval Program	189	134
Greater Vancouver Sewerage and Drainage District	27	28
Greater Vancouver Water District	20	20
Improvement Districts	2	1
Post Secondary Educational Institutions	426	375
Regional Hospital Districts	743	702
School Districts	821	809
Simon Fraser University	3	1
Thompson-Nicola District	1	1
University of British Columbia	43	44
University of Victoria	4	2
	6,287	5,418

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS FOR THE FISCAL YEAR ENDED MARCH 31, 1990 — Continued

9. Other Assets

	In Millions	
	1990	1989
	$	$
Prepaid program costs	1	6
Unamortized issue costs of public debt	20	30
	21	36

10. Accounts Payable and Accrued Liabilities

	In Millions	
	1990	1989
	$	$
Trade accounts payable and other liabilities	880	801
Accrued interest on public debt	322	319
Accrued employee leave entitlements	72	72
Forest Act, section 88	1	5
Government of Canada	88	60
Provision for guaranteed debt payout	4	
	1,367	1,277

11. Due to Crown Corporations, Agencies and Trust Funds

	In Millions	
	1990	1989
	$	$
Trust Funds	22	36
British Columbia Colleges and Institutes	13	12
British Columbia Housing Management Commission		3
British Columbia Transit	9	
Simon Fraser University	3	2
University of British Columbia	6	6
University of Victoria	1	1
	54	60

12. Deferred Revenue

	In Millions	
	1990	1989
	$	$
Motor vehicle licences and permits	76	65
Water rentals and recording fees	55	62
Petroleum, natural gas and minerals, leases and fees	22	24
Medical Services Plan premiums	40	45
Miscellaneous	87	58
	280	254

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS FOR THE FISCAL YEAR ENDED MARCH 31, 1990 — Continued

13. Public Debt Used for Operating Purposes

In Millions

	Year of Maturity	1990 Canadian Dollar Debt $	1990 U.S. Dollar Debt (CDN $) $	1990 Total Canadian Dollars $	1990 Weighted Average Coupon Rate Percent	1989 Total Canadian Dollars $	1989 Weighted Average Coupon Rate Percent
Short-term promissory notes	1989–1990					263	
	1990–1991	241	70	311			
Treasury bills	1989–1990					780	
	1990–1991	780		780			
Notes and bonds	1989–1990					375	10.98
	1990–1991	687	1	688	9.76	706	9.69
	1991–1992	757	1	758	10.18	876	10.09
	1992–1993	356	1	357	8.22	388	8.39
	1993–1994	356	1	357	9.24	502	10.15
	1994–1995	76	12	88	7.14	28	7.25
	1995–2000	1,476	4	1,480	9.18	1,446	9.20
	2000–2005	522		522	11.64	522	11.65
	2005–2010	66		66	9.66	66	9.67
		4,296	20	4,316	9.86	4,909	9.86
Total debt issued at face value		5,317	90	5,407		5,952	
Less:							
Sinking funds				(443)		(326)	
				4,964		5,626	
Unamortized discount				(161)		(179)	
				4,803		5,447	

Promissory notes outstanding at March 31, 1990 mature on November 2, 1990 at an annual average interest rate of 12.70%. During the year $943.7 million in notes were issued at interest rates which varied between 12.54% and 12.91%.

Treasury bills outstanding at March 31, 1990 mature at various dates to June 27, 1990 at an annual average interest rate of 12.35%. During the year, $3.12 billion in Treasury bills were issued at interest rates which varied between 11.97% and 13.27%.

The province had 164 series of notes and bonds outstanding at March 31, 1990.

Included in notes and bonds payable in Canadian currency are Japanese Yen notes totalling 29.4 billion Yen (1989: 31.1 billion Yen) which have been fully hedged to $211.9 million Canadian (1989: $220.7 million Canadian) through a currency exchange agreement.

The aggregate amounts of payments estimated to be required in each of the next five fiscal years to meet sinking fund and retirement provisions are:

In Millions

	Canadian Funds $	U.S. Funds $
1991	764	1
1992	772	1
1993	423	1
1994	293	1
1995	166	7

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS FOR THE FISCAL YEAR ENDED MARCH 31, 1990 — Continued

14. Public Debt Used for Fiscal Agency Loan Program

		In Millions					
		1990				1989	
	Year of Maturity	Canadian Dollar Debt $	U.S. Dollar Debt (CDN $) $	Total Canadian Dollars $	Weighted Average Coupon Rate Percent	Total Canadian Dollars $	Weighted Average Coupon Rate Percent
Promissory notes	1989–1990					2,137	
	1990–1991	1,815	798	2,613			
	1991–1992	91	32	123			
Notes, bonds and debentures	1989–1990					321	10.46
	1990–1991	64		64	10.16	83	9.59
	1991–1992	147	11	158	9.73	195	8.84
	1992–1993	104		104	9.70	107	9.64
	1993–1994	619		619	11.41	96	8.48
	1994–1995	341		341	9.38	116	8.67
	1995–2000	1,184		1,154	9.67	1,180	9.66
	2000–2005	1,460		1,460	13.61	1,460	13.61
	2005–2010	1,380		1,380	10.26	1,036	10.08
		5,299	11	5,310	11.08	4,594	10.68
Total debt issued at face value		7,205	841	8,046		6,731	
Less:							
Sinking funds				(1,687)		(1,266)	
				6,359		5,465	
Unamortized discount				(102)		(78)	
				6,257		5,387	

Promissory notes outstanding at March 31, 1990 mature at various dates to March 30, 1992 at an annual average interest rate of 11.98%. During the year, $7[illegible]illion in notes were issued at interest rates which varied between 5.83% and 13.70%.

The province had 375 issues of notes,bonds and debentures outstanding at March 31, 1990.

Included in notes, bonds and debentures payable in Canadian currency are Japanese Yen notes totalling 11.6 billion Yen (1989: 13.4 billion Yen) which have been fully hedged to $73 million Canadian (1989: $82.9 million) through foreign currency exchange agreements.

The aggregate amounts of payments estimated to be required in each of the next five fiscal years to meet sinking fund and retirement provisions are:

	In Millions	
	Canadian Funds	U.S. Funds
	$	$
1991	101	1
1992	202	6
1993	104	
1994	650	
1995	265	

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS FOR THE FISCAL YEAR ENDED MARCH 31, 1990 — Continued

15. Net Equity (Deficiency)

	In Millions 1990	1989
	$	$
Net equity (deficiency) — beginning of year	(2,007)	(2,937)
Consolidated net revenue for the year	404	930
Net equity (deficiency) — end of year	(1,603)	(2,007)

16. Comparison of Planned and Actual Results

A comparison of budget and actual net revenue (expenditure) is as follows:

	In Millions 1990		1989	
	Budget $	Actual[1] $	Budget $	Actual[1] $
Organizations recorded on consolidated basis:				
Consolidated Revenue Fund:				
General Fund		144	(395)	(327)
Budget Stabilization Fund	(375)	109	124	748
Privatization Benefits Fund	20	112		309
British Columbia Educational Institutions Capital Financing Authority				
British Columbia Regional Hospital Districts Financing Authority				
British Columbia School Districts Capital Financing Authority				
Health Facilities Association of British Columbia		(1)		(2)
Medical Services Commission of British Columbia				
	(355)	364	(271)	728
British Columbia Buildings Corporation		(55)		(12)
British Columbia Health Care Research Foundation		(1)		
British Columbia Heritage Trust		1		
British Columbia Systems Corporation				3
British Columbia Trade Development Corporation		(7)		
British Columbia Year of Music Society		(1)		
Downtown Revitalization Program Society of British Columbia		1		
Science Council of British Columbia		5		11
		307		730
Organizations recorded on modified equity basis — government enterprises		97		200
Consolidated net revenue		404		930

[1] The actual figures reflect the elimination of inter-entity transactions.

17. Expenditure by Group Account Classification

	In Millions 1990	1989
	$	$
Grants and contributions	9,536	8,633
Salaries and benefits	1,222	1,165
Operating costs	1,438	1,089
Asset acquisitions	526	304
Other	1,688	1,441
Total operating expenditure	14,410	12,632

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS FOR THE FISCAL YEAR ENDED MARCH 31, 1990 — Continued

18. Contingencies and Commitments

(a) Guaranteed Debt

Guaranteed debt as at March 31, 1990 totalled $4.9 billion (1989: $5.4 billion).

	In Millions	
	1990 Net Outstanding	1989 Net Outstanding
	$	$
Municipalities and other local governments	8	10
Health and education	99	71
Economic development	616	609
Utilities	4,246	4,862
Total	4,969	5,552
Less:		
Amounts included as investments within the consolidated entity	(87)	(114)
Provision for probable payout	(4)	
Total	4,878	5,438

(b) Contingent Liabilities

(i) Pending litigation

The government is a defendant in legal actions which may give rise to future liabilities. No amount has been recorded in these financial statements because the outcome of the litigation is uncertain.

- Consolidated Revenue Fund — the total claimed in specific legal actions, where the estimated or known claim is or exceeds $100,000, amounts to approximately $217 million. See Note 18 to the Combined Financial Statements for further details.
- Consolidated Crown corporations — Medical Services Commission of British Columbia: In the 1988/89 fiscal year an action was commenced by physicians in the section of Emergency Medicine of the British Columbia Medical Association claiming damages, together with interest and costs, for payments allegedly withheld by the Commission. The amount of the damages is not stated in the Writ of Summons served on the Commission. It is the opinion of the Commission's management and its legal counsel that the physicians have no cause of action.

(ii) Other contingent liabilities

The government also has contingent liabilities in the form of indemnities, indirect guarantees and outstanding claims. Where indemnities are for explicit quantifiable loans, the amounts are included in guaranteed debt. No liability for all other contingent liabilities has been recorded in these financial statements because amounts are uncertain.

(c) Commitments

At the end of each year there are a number of commitments outstanding for capital contracts and extraordinary programs. Such future expenditures are recorded as a charge in the year in which the work or service is performed. Commitments for capital contracts totalled approximately $261 million (1989: $213 million).

(d) Superannuation and Pension Actuarial Valuations

(i) The government has statutory responsibilities, in the event of a deficiency existing between the money available for payment of superannuation allowances and the amounts necessary to meet the payment of these allowances, equal to:

- the amount of the deficiency in the case of the Public Service Superannuation Fund; and
- the amount specified by the Lieutenant Governor in Council in the case of the College Pension Fund.

(ii) The funds administered by the Superannuation Commission require that periodic actuarial valuations be performed for the purpose of assessing the adequacy of contribution rates and the financial position of the funds. The reporting of an unfunded liability by the actuary indicates that a deficiency of funds may arise in the future if the actions recommended by the actuary are not followed.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS FOR THE FISCAL YEAR ENDED MARCH 31, 1990 — Continued

18. Contingencies and Commitments — Continued

The unfunded liabilities as shown in the **latest actuarial valuations** for the above funds are provided for information purposes:

	In Millions	
	Public Service Superannuation as at March 31, 1987	College Pension as at August 31, 1988
	$	$
Total actuarial liability	4,480	372
Less assets:		
Fund	(2,339)	(196)
Present value of future contributions	(1,685)	(146)
Unfunded liability	456	30

(iii) The government also has statutory responsibility for any deficiency which arises between the money available in the Members of the Legislative Assembly Superannuation Account for the payment of superannuation allowances and the amounts necessary to meet the payment of such allowances. It is the practice of the government to fully fund such deficiencies at the time a member or the surviving spouse becomes eligible and elects to receive an allowance. An actuarial valuation of the account is not required by the *Legislative Assembly Allowances and Pension Act* and no such valuation has been performed.

See Section G of the Public Accounts for further details of these funds.

19. Trust Funds

Amounts held and administered in trust by the government at the end of the fiscal year totalled $ 20,492 million (1989: $18,148 million). See Note 19 to the Combined Financial Statements for further details.

20. Subsequent Event

On September 18, 1990, the chairman of Treasury Board determined that the government had a liability in the amount of $40 million, as of March 31, 1990, representing the estimated 1989/90 cost of physicians' services currently under negotiation with the British Columbia Medical Association. The Provincial Secretary approved this amount as an expenditure of the Lottery Fund Special Account.

21. Comparatives

Certain of the comparative figures for the previous year have been reclassified to conform with the current year's presentation.

The financial affairs of the British Columbia Liquor Distribution Branch are now accounted for in these financial statements on the modified equity basis. As a result, the assets and liabilities of the branch have been eliminated from individual balance sheet categories and are reflected as an "amount due" in "Investments in and amounts due from Crown corporations and agencies." The $9 million net increase in 1988/89 assets resulting from this change is shown as an non-operating accounting adjustment in the consolidated statement of revenue and expenditure.

With this exception, reclassifications have had no effect on the operating results or fund balances as previously reported.

CONSOLIDATED FINANCIAL STATEMENTS
STATEMENT OF ORGANIZATIONS RECORDED ON A CONSOLIDATED OR MODIFIED EQUITY BASIS
FOR THE FISCAL YEAR ENDED MARCH 31, 1990

Recorded on Consolidated Basis

Consolidated Revenue Fund:
- General Fund
- Budget Stabilization Fund
- Privatization Benefits Fund

British Columbia Buildings Corporation
British Columbia Educational Institutions Capital Financing Authority
British Columbia Health Care Research Foundation
British Columbia Heritage Trust
British Columbia Regional Hospital Districts Financing Authority
British Columbia School Districts Capital Financing Authority
British Columbia Systems Corporation
British Columbia Trade Development Corporation
British Columbia Year of Music Society
Downtown Revitalization Program Society of British Columbia
Health Facilities Association of British Columbia
Medical Services Commission of British Columbia
Science Council of British Columbia

Government Enterprises
Recorded on Modified Equity Basis

British Columbia Assessment Authority
British Columbia Enterprise Corporation
British Columbia Ferry Corporation
British Columbia Housing Management Commission
British Columbia Hydro and Power Authority
British Columbia Liquor Distribution Branch
British Columbia Lottery Corporation
B.C. Pavilion Corporation
British Columbia Petroleum Corporation
British Columbia Railway Company
British Columbia Steamship Company (1975) Ltd.
British Columbia Transit
Creston Valley Wildlife Management Authority Trust Fund
Duke Point Development Limited
Housing Corporation of British Columbia
Insurance Corporation of British Columbia
Pacific Coach Lines Ltd.
Pacific National Exhibition
Provincial Capital Commission
Provincial Rental Housing Corporation
W.L.C. Developments Ltd.

STATEMENT OF GOVERNMENT ENTERPRISES — SUMMARY OF FINANCIAL POSITION AND OPERATING RESULTS FOR THE YEAR ENDED MARCH 31, 1990

(In Millions)

	Utility	Insurance	Liquor	Trans-portation	Finance	Industry	Natural Resources	Housing	Total
	$	$	$	$	$	$	$	$	$
FINANCIAL POSITION									
Assets									
Cash and temporary investments	207	2,311	6	147	44	9	50	5	2,779
Accounts receivable	293	86	2	89	12	6	37	3	528
Inventories	60		56	21		30			167
Loans and advances				2		1		10	13
Long-term investments				39				1	40
Fixed assets	8,345	109	8	2,830	10	185		69	11,556
Other assets	144	53		48	4			3	252
Total Assets	9,049	2,559	72	3,176	70	231	87	91	15,335
Liabilities									
Accounts payable and accrued liabilities	544	1,816	55	208	41	11	33	17	2,725
Long-term debt:									
—owing to government	3,357			969					4,326
—owing to others	3,605			618	5	9		18	4,255
Other long-term liabilities				6			25	45	76
Deferred liabilities	742	688		4	5	2			1,441
Total Liabilities	8,248	2,504	55	1,805	51	22	58	80	12,823
Net Assets (Liabilities)	801	55	17	1,371	19	209	29	11	2,512
Adjustments and eliminations									
Unrealized inter-company profit									0
Unamortized asset appraisal increases				(139)					(139)
Unamortized gain on debt defeasance	(19)			(108)					(127)
Permanent debt/equity financing	8			3				23	34
Equity in Government Enterprises 1989/90	**790**	**55**	**17**	**1,127**	**19**	**209**	**29**	**34**	**2,280**
Equity in Government Enterprises 1988/89	**677**	**10**	**14**	**1,097**	**3**	**207**	**57**	**33**	**2,098**

RESULTS OF OPERATIONS

Revenue									
From operations	1,821	1,479	1,285	778	582	187	361	64	6,557
Transfer from government				247	7	16	1	22	293
Total Revenue	1,821	1,479	1,285	1,025	589	203	362	86	6,850
Expenses									
From operations	1,340	1,434	865	884	387	115	368	83	5,476
Transfers to government	361			122				2	485
Total Expenses	1,701	1,434	865	1,006	387	115	368	85	5,961
Net Income (Loss) for the Year 1989/90	**120**	**45**	**420**	**19**	**202**	**88**	**(6)**	**1**	**889**
Net Income (Loss) for the Year 1988/89	**86**	**10**	**415**	**75**	**190**	**62**	**(4)**	**3**	**837**

STATEMENT OF EQUITY IN GOVERNMENT ENTERPRISES
FOR THE YEAR ENDED MARCH 31, 1990

(In Millions)

	Utility[1]	Insurance[2]	Liquor[3]	Trans-portation[4]	Finance[5]	Industry[6]	Natural Resources[7]	Housing[8]	Total
	$	$	$	$	$	$	$	$	$
Balance—beginning of year	677	10	14	1,097	3	207	57	33	2,098
Net earnings (losses) for the year	120	45	420	19	202	88	(6)		888
Capital transfers to government			(417)	(10)	(186)	(89)	(34)		(736)
Adjustments and eliminations	(7)			21		3	13		30
Increase (decrease) in equity of Government Enterprises	113	45	3	30	16	2	(27)	0	182
Balance — end of year	**790**	**55**	**17**	**1,127**	**19**	**209**	**30**	**33**	**2,280**

[1] Utility includes British Columbia Hydro and Power Authority.
[2] Insurance includes Insurance Corporation of British Columbia.
[3] Liquor includes British Columbia Liquor Distribution Branch.
[4] Transportation includes British Columbia Ferry Corporation, British Columbia Railway Company, British Columbia Steamship Company (1975) Ltd., British Columbia Transit and Pacific Coach Lines Ltd.
[5] Finance includes British Columbia Assessment Authority and British Columbia Lottery Corporation.
[6] Industry includes British Columbia Enterprise Corporation, B. C. Pavilion Corporation, Pacific National Exhibition, Duke Point Development Limited and W. L. C. Developments Ltd.
[7] Natural Resources includes Creston Valley Wildlife Management Authority Trust Fund, Provincial Capital Commission and British Columbia Petroleum Corporation.
[8] Housing includes British Columbia Housing Management Commission, Provincial Rental Housing Corporation and Housing Corporation of British Columbia.